Clinical Lecture
ON THE
TEMPERATURE AND CIRCULATION AFTER CRUSHING OF THE CERVICAL SPINAL CORD.

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(*Concluded from p. 715.*)

TAKING, then, our first assertion to be, that throbbing arteries, slow pulse, and great increase in temperature, are the most usual conditions after injury to the cervical spine, and admitting, next, that they are liable to marked exceptions, we have now to examine as to the relative frequency of the two extremes and of cases which are intermediate. In one of the latter class, which I mentioned in my lecture last week, the temperature was low during the first two days, and subsequently rose; but neither the reduction nor the rise was extreme. From the notes of cases which were sent in last winter for the surgical scholarship I abstract the two following, of which the notes were taken by Mr. Mercier, the successful competitor. In the first of them you will see that, although the pulse was full, soft, and rather slow, and the surface felt hot, the temperature did not register above normal until the day of death. One curious point let me ask you to observe in this narrative—that the man had very marked priapism whilst in shock, with a feeble pulse, cold skin, and a temperature of 95°. This unusual combination of symptoms is explicable only by supposing the vaso-motor completely paralysed, and at the same time the heart's vigour much depressed.

CASE 1. *Crush of cord on level of fifth cervical vertebra; survival three days.*—Second hour (4 P.M. Jan. 2nd): Pulse 72, small and feeble; temperature less than 95°; skin felt cold, but dry; face and lips pale; very marked priapism.—Fifth hour (6.30): Pulse 48; temperature below 95°; skin cold and clammy; complains of feeling very cold.—Tenth hour (11.30): Pulse 50; temperature below 95°.—Second day, morning: Pulse 64, full and soft; temperature 98·2°; skin warm and dry.—Evening: Pulse 60; temperature 98·4°; skin hot and dry.—Third day: Pulse 72, full; breathing embarrassed, and face dusky; priapism diminished.—Afternoon: Temperature 102°; died at 5.30, the pulse ceasing first.

Remarks.—At the autopsy the fourth cervical vertebra was found to have been driven forwards and the cord crushed. The membranes were not injured, and there was only very little extravasation into the substance of the cord. It will be seen that the temperature, which was low at first, rose to normal within twenty hours of the accident, and that at the same time the skin became hot. Priapism had, however, been markedly present in the first stage, when the man was chilly and his temperature low. The usual symptoms of complete paralysis of all limbs and diaphragmatic breathing were present. The exact depression of temperature was not measured, as the thermometer was not marked lower than 95°. The patient was a man aged fifty-three, under the care of Mr. Maunder, in the London Hospital, in January, 1874.

In the next case we have a slow full pulse at first, and a normal temperature; then a rise of temperature; and finally a fall to nearly normal before death.

CASE 2. *Cord crushed at level of seventh cervical vertebra; priapism; contracted pupils; diaphragmatic breathing; imperfect paralysis of arms; survival to sixth day.*—Fifth hour: Pulse slow and full; he shivered and complained of cold; face dusky; priapism.—Sixth hour: Temperature normal; still felt very cold.—Third day: Pulse 72, soft, full, and regular; temperature 101·5°; skin felt of natural warmth.—Fourth day: Temperature 100·4°; priapism passing off.—Fifth day: Pulse 99; temperature 102·2°.—Sixth day: Pulse 84; temperature 99·4°; face mottled. Died at noon, rather suddenly.

Remarks.—The temperature did not rise during or after the act of death. The priapism had at that time wholly passed away, and the penis was unusually small and hard. Death was in connexion with the embarrassment of breathing and broncho-pneumonia. In the arms, the triceps and supinators and extensors were paralysed and the flexors weakened; the pectoral muscles, serratus magnus, deltoid, biceps, brachialis anticus, and pronators were but little affected. The patient was a man aged thirty-six, under the care of Mr. Couper.

I find several other cases on record in which the temperature remained low. In one, mentioned by Mr. Wagstaffe in the volume from which I have already quoted, the patient had a temperature of 92·3° on admission, which fell steadily up to the time of death, forty-eight hours later, when it was only 81·7°, or actually 16° below the normal standard. In this case the temperatures were taken both in the axilla and rectum, and differed but little. The patient, a man aged forty-eight, had his cord crushed at the level of the sixth cervical vertebra, and there was some ecchymosis in front of the spinal column, about the sympathetic nerve. The case was complicated, however, by a fracture of the skull with slight subarachnoid effusion and contusion of the cerebral surface. Unfortunately, we have no note as to the condition of his circulation. Very low temperatures have been repeatedly observed in connexion with injuries to the head, but, as a rule, only in the first stage, and forming what is called the "temperature of shock."

In a case of Mr. Le Gros Clark's, mentioned by Mr. Fred. Churchill, a man aged twenty-two received an injury to his neck, which crushed his cord between the sixth and seventh vertebræ. The notes state that the cord was permanently compressed. He had the usual symptoms as regards paralysis, and he had from the first a considerable degree of priapism. He was at first drowsy and prostrate, and on the day of his death he became comatose, with "deep stertorous breathing." He died about forty-eight hours after his accident, and during the whole time his temperature, which had been low at first, had been falling. It was 93° on admission, and 82° a few hours before death. There is no note of the state of his pulse on the first day, but on the second it is recorded as "42, irregular in force and rhythm, soft and small." Subsequently it fell to 40 and to 39. You will see that in this case, although the temperatures were much lower than in my own, and although to a certain extent it bears out the general assertion that there is a relation between the feebleness of the circulation and the lowness of the temperature, yet we do not find the heart failing altogether.

And now, gentlemen, I think we have reached a point when we may suitably try to state our problem explicitly. It will be obvious to anyone who has attended to what has been brought forward that in attempting to explain these remarkable phenomena of temperature several different elements must be constantly kept in mind. First, we have to remember that arterial paralysis following the injury to the vaso-motor nerve facilitates the distribution of the blood. Secondly, we must bear in mind that the central organ of the circulation may possibly be unable, owing to some damage which its own nervous supply has sustained, to take advantage of the facilities offered by the paralysed arteries. Thus there are some cases in which the pulse is full and throbbing, and others in which it becomes extremely weak, although the proof of arterial paralysis, as afforded by the pupils and the penis, is alike in both. Thirdly, it is needful to estimate and allow for the effect of what is called "shock." And, lastly, we have to ask whether there are any influences at work which, quite apart from the question of unusually free distribution, would favour the cooling or the heating of the blood-mass itself.

The term "shock" is somewhat difficult of definition, yet it is necessary, in order to gain anything like clearness in the use of our terms, that we should endeavour to assign its limits. I suppose that we usually mean by shock the state of depression which has resulted from some sudden influence, and which, being functional only, may possibly pass completely away. The nervous system is concerned in the first instance, but it is the vascular system which chiefly displays symptoms. In a surgical sense, we never

speak of a patient as having sustained shock if he continues to be florid in the face and with a good pulse. Anything which is the result of a structural lesion and necessarily permanent ought not, I think, to be classed with the consequences of shock. Of course we do not deny that severe structural lesions suddenly inflicted are attended with shock, but we wish to distinguish between those of their effects which would be permanent and those which are transitory. I am not sure that we might not almost define shock by reference to its duration, and that it would not be fair to say that it must either pass off within a short period or end fatally. If the symptoms of shock appear to be protracted, it is almost certain that they have been superseded by those due to a structural lesion. I cannot better illustrate my meaning than by reference to the common cases of concussion of the brain. In these, if at all severe, the patient is almost always taken up pallid and death-like, with a flagging pulse and a cold surface. Should this condition last for an hour or two, we can easily understand that, since the vital functions are all in comparative abeyance, the temperature of the blood must fall. Usually, however, under favouring circumstances, this state of depression gradually passes off; the heart resumes its vigour, the surface becomes florid and warm, and the patient is either well or begins to display the class of symptoms due to the special injury which he has received. If, on the contrary, he should remain for several days without reaction, then it would be safe to conjecture that some severe injury to the cerebral or spinal centres has occurred. However closely these symptoms may continue to resemble those of the original shock, still, inasmuch as they are due to a different cause, require different treatment, and furnish the basis for a very different prognosis, there is surely no advantage in continuing to apply the same name. Now the degree of shock which attends a case of crushing of the cervical cord will vary very much in different cases. It will depend a good deal on the character of the accident, and upon whether it was attended with circumstances which did or did not much alarm the subject of it. If a man should realise at the moment that he had broken his neck, the knowledge would probably depress him greatly, and tend much to increase the symptoms of shock. In many of these cases, however, no great alarm is produced by the accident, and the patient never realises at all that he has sustained any serious injury. In some of these the shock is very slight, and the patient almost from the first has a slow, full pulse, with a hot skin. In others, and these form the majority, a degree of shock occurs lasting, we will say, over a few hours, and during it and for some little time afterwards the temperature is low. Then follows the stage of reaction—the paralysed arteries dilate, and the temperature rises considerably above the natural standard. We must, I believe, consider that the hot skin which is to be noticed at this stage denotes more than simple increase in the supply of blood to the surface, and that the blood itself has really become over-heated. Whether the altered conditions of the circulation due to the arterial paralysis suffice wholly to explain the heightened temperature of the blood it is difficult to say. It may be that at this stage there is defective radiation of heat, or that the functional activity of the sudoriparous glands is reduced, or even that in the tissue changes of the newly paralysed parts there is something which causes increased production of heat. Without venturing any opinion on these points, I will ask you to note that the hot stage in paralysed parts, whether in one limb, or, as in the case of these injuries to the cervical spine, in almost the whole body, is not a permanent one. Most undoubtedly, the final conditions of paralysed parts are attended by diminished, not increased production of heat. We must keep this fact in mind, for it may perhaps help us to explain the exceptional cases in which this stage of increased heat is omitted. Why parts permanently paralysed should be cold and not hot—and that, too, in all probability, irrespective of the paralytic condition of their bloodvessels—is a question which deserves, I think, more attention than it has yet received. Probably the abolition of all function in the part, of motor power in muscles, and of sensation in the skin, is attended by a torpid state of cell-life unfavourable to the production of heat. Probably also the circulation itself becomes much enfeebled. We do not know precisely what changes occur in the arteries, but it is certain that they do not remain full and throbbing as in the first few days of their paralysis. Probably their coats become thin and feeble. It is even possible that their paralysis is not permanent, for if we may take the penis as fairly illustrating the general condition of parts supplied by the vaso-motor nerve, we find reason for believing that a certain degree of recovery almost always takes place within a few days. Thus the priapism, which is almost invariably present at first, rarely persists in any great degree for many days; and although it is the rule for the organ to remain flaccid, it becomes sometimes small, firm, and contracted. It is so also with the bladder, which, although in the first instance admitting of paralytic distension, usually in the course of a week or two regains its expulsive power to some extent.

We have thus suggested explanations of the more common conditions, so far as temperature and circulation are concerned, of the shock stage with its coldness, and the vaso-motor paralysis stage with its heat, and of the final condition of chilliness into which all long-paralysed parts lapse. We have left our final problem—Why in a few cases, such as the one which is the text of my lecture, is the vaso-motor paralysis stage attended with coldness instead of heat?

I have implied that it is not fair to say that these cases are instances of prolonged shock; for, so far as we can estimate them, their symptoms depend upon a cause or causes different from those which produce the symptoms to which this name should be limited. In my case, for instance, the man lived for five days in a condition of tolerable comfort, not in the least frightened, able to converse and even jocular, with florid cheeks and lips, and with a countenance very different indeed from that of the deathly pallor with which we are so familiar in true shock. At one time his heart had regained a very tolerable degree of vigour, enough certainly to have removed anything deserving the name of shock. Although, however, I assert that his circulation did for a time recover itself, yet I must admit that we were never able to feel sure that the heart was not suffering from some unusual cause of depression; thus the pulse never became full, as it usually does in the reaction stage of these cases, and it soon flagged again, and during the last thirty-six hours of the man's life was feeble in the extremest degree. Thus I think we may safely infer that, in this individual instance, it was the permanent enfeeblement of the heart which, to a large extent, prevented the usual rise of temperature. Yet, in face of the fact that the man's lips and cheeks were florid and his pulse of moderate power, I can scarcely think that this explains it all. My doubt is strengthened by calling to mind Mr. Le Gros Clark's case, in which, although the temperature actually fell to 82°, the pulse could be counted up to the time of the man's death, and nothing is noted as to its having been unusually feeble.

If however it be the fact, as I very much suspect it is, that all paralysed parts, in connexion with the cessation of functional activity due to the paralysis, tend from the very first to develop less heat than they did in health, then we can without much difficulty explain what we have witnessed. A man having one cold limb through which his blood must pass would experience a proportionate cooling of all his blood, just as with an inflamed arm we find that the temperature of the whole blood is raised. When the cervical spine is crushed, however, not only a single limb, but five-sixths of the whole body is paralysed, and will become a kind of refrigerator to the blood. If this hypothesis be true, there can be no wonder at the low temperatures which occur, or at the fact that not only the affected limbs but also the unparalysed head and neck are cold. The marvel is, indeed, that there are any exceptions to the law of low temperature after fractured spine. Yet these exceptions, as we have seen, are the rule. We must explain them, I suppose, by reference to the condition of the circulation, and assume that when the arteries are paralysed, and the heart unusually vigorous, then the additional freedom with which blood is supplied not only suffices to prevent the fall in heat which would otherwise have taken place, but actually creates a balance on the other side. You will notice that vaso-motor paralysis alone cannot do this; there must also be an excited or liberated action on the part of the heart. I believe that clinical facts will be found to fit very well with this explanation, for it certainly never happens that the temperature rises in these cases unless the heart's action is vigorous and the pulse throbbing. If the pulse is

only of moderate strength, the patient cools. A pulse which under ordinary circumstances would have abundantly sufficed to maintain the temperature will not do so when the greater part of the body is paralysed. As you will see, however, I am all along taking for granted that the changes which result in the production of heat are less active in paralysed than in healthy parts—a point which still needs further examination.

I have yet to refer to one other difficulty, and I shall do so for the present very briefly. It will doubtless have occurred to many of you to ask how it is that the heart's vigour differs so much in different examples of apparently very similar lesions. We have sought to explain the remarkable differences in temperature by making the heart responsible; but how can we explain in turn the varying vigour of the heart? My reply is that the nerve-supply to the heart is known to exercise a most important power in restraining or depressing and in exciting its action; and thus there is nothing very improbable in the supposition that the cardiac nerves may be influenced in different ways, in relation with the precise position and extent of injury to the cervical cord and ganglia. I will not for the present go into detail, and I may admit that nothing has been proved as to peculiarity of site or extent of crush in the exceptional cases where the heart's action is depressed. This however, is, I feel certain, the direction in which we must work. In concluding this lecture, I cannot but recommend this subject to your further investigation. We want more detailed and accurate observations than have as yet been accumulated. This hospital offers a good field for collecting such; and if any student who is working for our Surgical Scholarship should incline to collect all the examples of injury to the cervical spine, and carefully give details as regards pulse, temperature, heart's action, position of paralysis, mode of death, and conditions found at the post-mortem, he might very probably furnish some data which would be of permanent scientific use.

Clinical Lecture
ON
TREATMENT OF HEADACHE FROM ORGANIC INTRACRANIAL DISEASE.

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THE human head is a very wonderful thing. I do not say that as a new discovery, but it is true in many ways; and when you are going to consider headache, you must consider shortly, first, what the head is.

There is no mystery about a leg or an arm. Sir C. Bell did really explain very beautifully and nearly completely all the mechanism of the hand, and what he left unfinished is quite within the scope of similar enlightened and ingenious inquiry. Even that curious song about the irrepressible mechanical leg of cork does not go far beyond the bounds of possibility. The leg and arm are levers and motive powers working under entirely comprehensible and almost imitable conditions.

But who could make a working model of a head? Consider how manifold is the composition of the head. All the great systems are represented in it; nay, in a sort they come in it to their highest functions. The alimentary system in the inferior fourth, with machinery and expression of appetite; the respiratory system in the next fourth, with mechanism and expression of passion; the nervous system in the upper half, with mechanism and expression of intelligence such as it may be; and, laterally, the ears, with highest governance of the locomotive system, as you will not doubt when a good tune keeps you marching or sets you dancing; so much are all muscular acts full of the sense of æsthetics of rhythm. And the mask of face, covering all and taking its prevailing expression from the predominance of either.

Now, all these parts are built up of the common tissues, with their liabilities—bone with its liabilities, muscle with its liabilities, nerve with its liabilities, just as in other parts; besides special organs, such as the teeth, very subject to pain, and mucous membranes brought into exposed situations, and organised with especial delicacy, as, indeed, are all the common tissues used in forming the head.

And within it the brain and its membranes, sixty-four ounces (we will hope) of a richly vascular mass packed rather tightly in an unyielding case, yet swelling and falling in every pulse, and swelling and falling in every breath. And, though so sensitive to any deficiency of blood that its blanching produces at once faintness, yet placed up on the top of a column, requiring to be fed through narrow pipes against the constant drag of gravity, and drained sharply by the downward suction of the lengthy column of blood in the cervical veins. The blood forced up with such difficulty, and gliding down with such ease, that there is constant danger of the supply in the brain failing; to prevent which danger a means of retarding the stream within the brain is added, and itself tends to induce congestion, and so complicates the puzzled balance on which health and comfort depend. The mechanism of hæmal retardation in the brain is perhaps the most essential of those means by which we men are able to stand upright, or "maintain the erect posture," as the physiologists say; yet it has hitherto been entirely passed over even by Dr. Carpenter.

That is a very faint and feeble outline of the head, as concerns its liability to pain, and it is clear at once that for a thing so complex its pains could not all go by one name. Every pain in the head is not called headache; we have earache, and toothache, and so on, referred to special organs, and we recognise neuralgia, sore bones, &c., belonging to the liabilities of the component textures. Excluding both these sorts of pain within the scope of the head, pains so special that they at once refer to a special part, or so general that they obviously might equally belong to the leg or arm, or any place where nerve and bone and muscle exist, there remain pains of the head which put all the head into such misery that popularly in all languages men call them headaches *par excellence*, and even in very childhood they are recognised as quite special. Some of you will remember the poor little thing in the Clinical last year, who, only seven years old, and having tubercle in the brain, said it wasn't *headache* he suffered from, it was *pain in the head*. Pitifully accurate pathometry for such a time of life.

Now these headaches, which are not pains in the special organs of the head nor in the general textures of the head, but are aches of the head itself, have been a good deal written about in a semi-popular sort of way; opinions about them in plenty have been given, opinions which express not the knowledge of the opiner, but his sense that there is a good opportunity of saying something advantageous, whereof his conscience is almost the only check, and the pay he gets is quite the only reward—a very ordinary sort of medical opinion. Every old woman, or nearly every old woman, is an authority on headaches in this general way. Indeed, it is not easy to find any other good authorities upon them. Niemeyer does not even name headache in the index of his very admirable work; and Dr. Russell Reynolds, who has separate writers on all the sorts of convulsions in particular, and another writer on convulsions in general, the harmony of which chorus of writers reminds you irresistibly of that other select medical concert at Mr. Sawyer's, where "every gentleman sang to the tune he knew best,"—even Dr. Russell Reynolds has no writer on headache. Indeed, it is not easy to get good guidance on the subject. I went to the library of the Medico-Chirurgical Society, and two other books being out—which, I presume, implies a demand on the topic—I could get only a little book of the late Dr. Wright, one of a small popular series. This little book arranges headaches in synopsis in a way more complete than I would pretend to do, so I will put the scheme before you:—

A. Headaches of childhood and youth.
B. Headaches of adult life.
  1. Dependent on the circulating system.
    a. Plethoric { Occasional. / Persistent.
    b. Congestive.

2. Dependent on the digestive system.
   a. Headache of indigestion.
   b. The sick headache.
   c. The bilious headache { Accumulation of bile in the system. / Exuberant secretion of bile.
3. Dependent on the nervous system.
   a. The ordinary nervous headache.
   b. The hysteric headache.
   c. The headache of extreme exhaustion and debility.
   d. The megrims.
   e. Brow-ague.
4. Rheumatic and gouty headache.
5. Headache dependent on organic disease.

C. Headaches of old age.

To be able to conceive or even actively adopt such a division of headaches is a mark of a very clever man; and something equivalent must be done by every one of us who succeeds in practice. To distinguish in some sort between a nervous headache and a bilious headache and a congestive headache and a sick headache is, in a way, to learn to know the patient's constitution, as it is called. The more actively-used mixtures in an ordinary surgery might be labeled according to the several kinds of headache to which they are suited and correspond. But all wise and practised doctors keep in view these two truths: firstly, that a headache occurring as a thing new and strange to the patient at any time of life needs to be considered with care, lest it be the onset of some acute illness; while, secondly, a chronic headache requires that you get the best knowledge you can of the patient's habits of life; and while endeavouring with proper medicines to bring the excretions into order, and with diet and exercise to regulate the daily life into conditions favourable to healthy nutrition, you should take care that whatever avocation or indulgence is exercising a bad effect is brought under restraint, directing change of scene, of pursuit, of amusement, according to necessity; and all this without meddling or prying, or otherwise going beyond your proper sphere as medical adviser. Your tact and capability of knowing and guiding human nature of different degrees of culture will find its level in this process. I say that the recognition of all these kinds of headache obtains its significance only so far as the headache is part of a general condition. The patient is plethoric, or congestive, or dyspeptic, or bilious, or nervous, or hysteric, or exhausted, or rheumatic, or gouty; and his headache is just that part of his ailment which most presses itself on his and your notice, serving as an introduction to and a gauge of his plethora, dyspepsia, bile, &c.; and, in curing him, you have to take up the management of the states indicated — management too various to form the subject of a parenthesis in my lecture.

But in Dr. Ringer's book on Therapeutics you will find some very certain and simple charm-cures for some very complicated headaches. And if you master the difficulty that the absolute certainty of the cure is precisely balanced by the absolute impossibility of being sure you are dealing with the right case, with such elaborate vagueness is it characterised, it appears you may have surprising success with a few minims of this, that, or the other. But the headache I have to bring to your notice is of a different kind from all this sort of symptomatic headache. It is the headache of organic disease within the cranium. You see Dr. Wright put it in his synopsis as one among several varieties of headache. Such a view underrates its importance. It stands alone in contrast with all the others. They all might be grouped together under great Alpha, constitutional headaches, and thus stand alone under great Beta, the pain of organic head-disease. The organic causes of great headache are never diseases of the proper nervous tissue, but always diseases of its enveloping textures. I don't want, however, to draw you off on such a hypercritical subtlety, but to urge on you the vast practical importance of being able to discern quickly when you are dealing with the headache of organic disease within the cranium. For if you meet with such headache, certainly if occurring in any person in the earlier decades of adult age, your duty is at once most important; you must immediately give large doses of iodide of potassium. By doing so you will, in a large proportion of cases, save sense, mind, or life. I would particularly impress this duty upon you, and if I speak strongly, that is because there rise up to my recollection the large number of persons I have already seen blind, squinting, palsied, agonised, or even dead for want of iodide of potassium. If I were an examiner in medicine I should ask a candidate "What would you do if a young adult came to you with signs of organic disease within the cranium?" and if he did not say he would at once give iodide of potassium I would send him down for three months to think it over. If reflection made me reconsider my determination it would be because your text-books fail so signally in their duty in inculcating this practice. You find at best a feeble suggestion of the propriety of sometimes giving the iodide. Thus, even in the system of large books on medicine, Drs. Russell Reynolds and Bastian, at the tail of a protracted article upon Adventitious Growths in the Brain, speaking of the treatment of such growths, say if you believe there is syphilis you should give iodide; and turning to their remarks upon syphilitic formation in the brain, you find they tell you it is easy to know them, and that there are the signs of syphilis in the skin and bones, &c.

Such teaching would never inform you that many, nay, most of the persons with organic brain-disease that come before you curable by iodide of potassium, not only deny syphilitic history, but show no trace of syphilitic disease of the skin and bones. Syphilis, you should know, will in one person affect one system, in another another. I have met with a syphiloma as big as a potato in a man's liver when his skin and bones were free entirely from any trace of the disease, and time after time I have found iodide of potassium cure quickly men who already had been allowed, under medical care, to pass through weeks of dreadful headache, and come squinting or epileptic to seek further relief. Whether it be that iodide of potassium will cure things not syphilitic, or whether it be that people on the point of death by syphilis will persist in denying that they were ever tainted with it, I don't know; but of this I am sure, that persons who have neither history nor sign of syphilis will come before you with organic headache curable by iodide of potassium. Acres of detail on the varieties of tumour-micrology become worse than frivolous beside an ignorance or a faulty grasp of this truth. The number of real cures you will effect is not so great as to lead you to slight this. Think, too, of the horrible way of dying in such cases, and the necessity of relief will stand out bold in the blackness of its shadow, even if the light be not bright. But how can you discern when a headache is organic? Well, I don't think that the least experienced of us would have had much doubt that the headache suffered by the unfortunate man in 15 Clinical was organic. If I tried to say shortly what I believe would have convinced any one of us, it is that the man was so entirely overwhelmed, prostrated, agonised by it. In other words, the pain so implicated the action of his brain that it preoccupied all his faculties, and it was difficult to draw his attention out of the pain to answer any question. He was so wrapt up with his pain that he appeared partially insensible, and he staggered as he walked, and he hurried to lie down, and lay writhing and groaning. His friends say that he seems mad with the pain, and that he frequently calls out "Oh, my head!" His history shortly is this:—

E——, a railway guard, aged twenty-five, coming of a healthy family. He is married, and always had good health until four years ago, when he had a venereal complaint, with chancre, and was for some months ailing. Since then his wife miscarried twice, and had one healthy child. He has never been quite right since the chancre. But in September last he was taken in the night with insensibility, lividity, and foaming at the mouth. On recovering his senses he complained of intense headache, which has continued more or less ever since. In two months from the attack, however, he went to do some duty as railway porter; but he suffered much, and staggered and tumbled about at his work. Three weeks ago he grew worse. He was admitted to the hospital with the intense pain I have described. In a few days a slight squint was noticed, and some degree of facial paralysis soon after. Then the patient began to pass his excretions involuntarily, the pulse became slow, and he fell gradually away into coma, with partially lucid intervals; in which state he is at the time of lecture.

Now, I do not mean to say that you never find anyone very seriously disturbed by headache of a less grave sig-

nificance; indeed, you may meet with much distress from headache of a very innocent nature—such as megrim, or the sort of headache with luminous phenomena described by Dr. Hubert Airey in the Transactions of the Royal Society, under the name "teichopsia." For a little pain may put so large a proportion of the person into pain. The whole of some people stoops to such a little pain. But even if the pains then appear overwhelming you yet can be guided by the degree in which you succeed in drawing him off from the pains by getting his attention and giving your sympathy—an important aid in diagnosis; for the man who is only looking at the scientific bearings of his patient's symptoms as if he were watching a fermenting mixture may fail to see the gravity of a case when it is plain to all the friends that "he is more ill than the doctor thinks"—a remark which discredits not only the doctor's skill, but his good nature.

Yet it is far more by its associations than by its severity that one would conclude a headache to be organic.

Perhaps a convulsive attack, as in our case, will accompany the headache. The occurrence of convulsion is alarming enough at any time, but when associated with the grave and unusual headache I have been speaking of it ought at once to induce you to give the iodide. I don't mean that you should not give it unless convulsion exist. Convulsion is not constant in cerebral syphilis. Or you may find vomiting, which, when associated with persistent headache, is a grave sign of organic brain disease in its irritative stages. Headache and sickness would sum up into sick headache, and sick headache is in Dr. Wright's synopsis of constitutional headaches; but it is not so difficult to distinguish from the headache and sickness of organic brain disease as you might think. The vomiting of cerebral irritation is not accompanied usually by the foul tongue, flatulence, and full abdomen which you find in primary gastric disorder. It occurs chiefly when the patient rises up, and especially in the morning time after his night's rest, and it often is neither preceded by the nausea nor succeeded by the relief that are associated with the act of vomiting in sub-gastritis. But vomiting is in some cases a very prominent symptom, and constipation is frequent, so that I have known strange errors last for a time. Thus I met a careful practitioner over a case he thought to be intestinal obstruction, but it proved to be tubercular meningitis.

Another thing important to notice is the expression of the face, especially of the eyes. You will see them, when the cerebral irritation and pain are severe, look queer. There is a deeply abstracted, puzzled frown, the brows contracted, pupils large, and a little too much crossing of the optic axes, giving a trace of squint. Poor E—— showed this very well the other day, even at a time when he said he had no headache. He had quite a characteristic cerebral face. Next, the squint may become very evident, and perhaps ptosis supervene. Sometimes the squint will be reduced completely while the patient fixes sight on an object, the eyes relapsing into squint as soon as attention fails.

Then facial palsy is apt to show itself, or some paralytic condition of the limbs. It strikes me to remark that it is commonly said that in paralysis of the facial nerve from central disease the mouth is more affected than the eye, while in facial palsy from disease of the nerve the eye and mouth suffer equally. Now, though this statement goes from author to author, I believe that it is entirely erroneous, and has arisen through the simple fact, first, that central paralysis is slight in degree, and, secondly, that the mouth is dependent for its symmetry on a balance of the facial muscles, whilst the eye is not, so that the slighter degrees of facial palsy, due to central disease, easily reveal themselves by distorting the mouth, while they do not disturb the eye so evidently. In the case of E—— I showed you that the orbicularis palpebrarum is really as much affected as the orbicularis oris.

As the case progresses, signs of oppression, leading to coma, will come on, through effusion in the ventricles usually.

These are the phenomena general to all organic brain disease, but in all the headache is not so severe. Besides these signs there are other features in each case by which you may be able to judge of the particular kind of organic disease present.

Thus a rapid course or otherwise, constancy of symptoms or otherwise, pyrexia, rigors, the existence of causes of suppuration, of tubercle, of cancer, &c., any of these may guide you to a correct inference as to the particular organic change present. But what I want to impress upon you is that you must by no means wait until you have reason to believe there is syphilis before you give iodide of potassium. Your belief has nothing to do with it; your duty is to give the iodide at once. No one is ever hurt by iodide of potassium in doses of a drachm a day. All the symptoms of so-called iodism sum up in some nasal annoyance, and perhaps a rash on the surface, quite trivial in their real importance. If the patient has tubercle or cancer, or hydatid or aneurism, &c., he will die, iodide or no; but you can make sure he does not die of syphilis, or whatever more obscure organic changes are curable by the iodide, and it is your duty to do so in all cases, seeing that the iodide is harmless. I have so far spoken as if iodide of potassium were the only and sufficient cure for intracranial syphilis. But such a statement of the antisyphilitic powers of the iodide is really neither more nor less true than it would be to say that the iodide will in all cases cure every so-called tertiary manifestation of syphilis. But you know that in some cases of tertiary disease in the skin or muscles you find it necessary to have recourse to mercury, the iodide proving inefficient. The same is true as to intracranial syphilis; if iodide does not cure your patient, it is necessary to try the use of calomel vapour baths or of inunction.

Another thing in reference to the treatment by iodide which you should notice is that for the first two or three days of its use the patients sometimes may appear the worse for taking it. Thus a woman in Petersham ward last summer, who had intense headache and paralysis of the right side of the face, right arm, and leg, suffered more and appeared much worse for the first few days under half-drachm doses of the iodide, but the remedy being persevered with, she left the hospital quite recovered in a month.

When in a case of the intense headache of organic brain-disease you find specific treatment of no use, and it is plain that some incurable tumour exists, and if the patient is suffering excessively, the question arises, what can be done for relief? If the pain were in the thigh, you would inject morphia subcutaneously, and thank Dr. Alexander Wood for the relief you can thus afford. But dare you do so if the head be affected? This is a question which can only be solved by practical experience; all the therapeutical reasoning that ever will be able to be brought must necessarily fail entirely to solve it. You cannot tell beforehand; you must try it. Drs. Reynolds and Bastian do not mention morphia amongst the means of lessening the pain; they recommend Indian hemp. But with this I have never been fortunate enough to give any relief. Ice, which alone they also recommend, sometimes soothes, sometimes aggravates the pain. As in poor E——'s case, no relief was obtained from the iodide, and as his sufferings were so great, I ordered one-fifth of a grain of morphia to be injected subcutaneously. The result was that he passed a quiet night and was decidedly relieved by the injection, though the pain returned next day. I have employed the same means before under the like circumstances, and the conclusion I have come to is, that if care be exercised in the judgment of the dose, no improper risk of insensibility will be run in the use of morphia in these lamentable cases. Only you must remember one thing, and that is that coma often supervenes rather unexpectedly in organic brain-disease, and you may be blamed for an occurrence which was in the nature of the case. This would induce caution as to the period of the disease and the general circumstances in which you would use the morphia syringe; but having repeatedly found it give great relief and bring no ill-result, I should consider an unwillingness to employ it rather a sign of timidity at the consequences to oneself than to the patient.

In E——'s case no improvement had occurred from the use of the iodide, and, the symptoms becoming very urgent, calomel vapour baths and mercurial inunction were ordered. But the man sank within a few hours after a single bath. At the inspection we found an immense effusion of serum into the ventricles, which had been the immediate cause of death; but causing this effusion was a patch in the pons, at the floor of the fourth ventricle, having all the characters of syphilitic formation—that is, an irregular greyish transparent blotch, undefined in its exterior towards the brain-tissue, and having a caseous central area. Evidently from this case we learn that the anti-syphilitic treatment, however vigorous, may come too late.

CONTRIBUTIONS TO AURAL SURGERY.

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No. I.—ACCIDENTS TO THE EAR.

BY far the most usual accidents to the ear are those which eventuate in a rupture of the tympanic membrane; and there are four ways in which the rupture may be brought about. Firstly, by the violent introduction of a foreign body into the external auditory passage. Secondly, by the sudden compression of air in the middle ear, as in vomiting or blowing the nose very violently. Thirdly, by the sudden compression of air in the external meatus, as in a box on the ear or an explosion near the ear. Fourthly, by a fall or blow on the head.

In the 6th volume of the Transactions of the Clinical Society I have recorded several examples of this accident, and one in which the portio dura in its tympanic portion was wounded. In these two communications attention was directed chiefly to the subsequent healing or non-healing of the perforation, and to the various permanent degrees of deafness which remained. An attempt was made to point out that it was not altogether impossible to predict with moderate certainty either the future closure or patency of the rupture, as well as the degree of hearing likely to remain; and the latter was shown to vary between hearing so perfect that no failure could be detected, and deafness very nearly total. During the past year the following cases (which will serve as fair illustrations of this accident) have come under my observation.

CASE 1.—In June, 1874, a gentleman aged forty, who had previously had good hearing, whilst picking his right ear with the sharp end of a penholder made of a porcupine's quill, perforated the tympanic membrane. A sudden acute pain was followed by more or less uneasiness, but no loss in hearing power. By the next day a dull pain extended over the right side of the head, and there was considerable deafness. Both these symptoms continued until three weeks after the accident, when I saw him for the first time.

There was a small perforation at the upper part of the anterior section of the tympanic membrane, through which a little air escaped with a moist sound when inflation of the tympanum was practised. The deafness was considerable, and a vibrating tuning-fork placed on the vertex was heard much more loudly on that than on the healthy side. The external auditory meatus was somewhat swollen and tender. After each inflation of the tympanum with the Eustachian catheter a little muco-purulent fluid oozed out through the perforation, and the hearing was by this proceeding distinctly improved.

The treatment consisted in an attempt to keep the tympanic cavity as free as possible from secretion; and the means to bring this about consisted in the occasional use of the air douche through the catheter twice a week, and the injection (on Gruber's plan) of a few drops of warm solution of soda into the tympanum.* In the course of a month the perforation had healed, but the hearing, although very much improved to what it was in June, was far from perfect. No further change in this respect took place.

If the impaired hearing in this case had been due to the loss of continuity of the membrane, it would have immediately succeeded the accident, and the same would hold good if it had been due to shock. An interval of good hearing, however, followed the accident, and inflammation having been excited in the tympanic cavity, the inflammatory products effused in this situation interfered with the conduction of sound; and this is still further conclusively shown by the fact before alluded to—viz., that vibrations of sound from the tuning-fork placed on the head met with an obstruction on their passage outwards through the tympanum, and so were heard more loudly by the affected ear than by the healthy one.

CASE 2.—In August, 1874, I saw a young gentleman, aged twenty, in reference to an attack of inflammation in the left tympanum, from which he had suffered for five days. He told me that up to three years before he had never had anything wrong with either ear. At that time, whilst he was sparring, he had a blow on the right ear with the boxing glove. This was succeeded by a sudden pain, a loud noise in the ear, and a few drops of blood from the external meatus. Suppuration followed, and he had had a discharge from the ear ever since.

When I saw him, the membrane had in chief part ulcerated away; he could blow freely through the perforation; there was a slight purulent discharge, and very considerable loss of hearing. This last symptom was afterwards very much relieved by his wearing the cotton-wool form of artificial membrane; and the exposed lining membrane of the tympanum, after being treated with astringents, became more healthy, and ceased almost entirely to secrete.

CASE 3.—In the same month (August, 1874) I saw a lady, aged forty-nine, who gave a most clear account of having ruptured the left tympanic membrane whilst violently blowing the nose. At the time of the accident there was acute sickening pain, with a loud report in the ear; and for two or three days afterwards she could blow through the ear with the mouth and nose closed. The rupture healed in a few days; and in the course of a week the hearing, which had suffered considerable impairment, became, although not perfect, good enough for all practical purposes. Curiously enough, some time afterwards a precisely similar accident happened to the right ear. This rupture also healed, but left very great deafness.

This case illustrates how very little the impaired hearing is due *per se* to the loss of continuity of the membrane.

CASE 4.—On Oct. 15th, 1874, I saw, in consultation with Dr. Walters, of Reigate, a gentleman who met with the following unusual accident:—On the 12th of August, whilst he was extracting from his gun a cartridge, it exploded. He felt a sudden sharp pain in the right ear; for some hours he had a smarting sensation in it, and found on the same evening that he could blow through it. There were two slit-like longitudinal perforations in the anterior section of the membrane; the lower one had healed, but air passed through the upper one. Neither at the date of his visit to me in October nor at any previous time had the hearing been perceptibly harmed.

When we remember the impairment of hearing which so often follows shock from unexpected explosions near to the ear, one cannot but be led to think that the rupture of the membrane in this case may possibly have been a fortunate circumstance: by this I mean that the force which, had the membrane been stronger, would have impinged on the nervous apparatus and so caused shock, in this instance ruptured the membrane, passed through the perforation, and distributed itself in the cavity beyond.

CASE 5.—In October, 1874, I saw another case where the membrane had been ruptured by an explosion during the Crimean war, whilst the patient, an officer, was standing close to a mortar which, unexpectedly to him, was fired. Acute pain in the right ear, with a little bleeding, immediately followed, attended with great deafness, and he noticed a few days afterwards that he could blow through it. Ever since then there had been a discharge. There was a large perforation, involving more than half of the membrane. The hearing was generally pretty good, but he was deaf with it if the Eustachian tube of that side became so obstructed during a cold that he could not blow through the perforation.

CASE 6.—On November 9th, 1874, a surgeon, aged sixty-four, applied to me under the following circumstances:—Two months previously, when in good health, and with good hearing, during a violent fit of sneezing, he experienced acute pain in the left ear, became suddenly deaf, and was conscious of having ruptured the tympanic membrane, inasmuch as he could pass air freely through the ear with the mouth and nose closed.

The pain did not subside, and in twenty-four hours was followed by a profuse discharge, which was abundant when I saw him. The hearing had become so far lost as to make the ear practically useless. The anterior half of the membrane had undergone ulceration. Subsequently, under

* A few drops of the solution are placed in the lower naris, and then the patient, with the mouth and nose closed, and head inclined to the affected side, by attempting to make an expiration, forces the fluid up the Eustachian tube into the tympanum.

treatment, the discharge and other symptoms subsided, but very considerable deafness remained, and the perforation did not heal.

CASE 7.—On November 10th, 1874, Mr. G. B——, aged fifty-seven, gave me the following account:—Whilst out cover-shooting a long thorn ran into the left ear. This was followed by acute pain, a loud report, and a little bleeding. By the next day there was no uneasiness or deafness.

When I saw him, long after the accident, there was a distinct scar in the posterior section of the membrane. An unmistakable appearance of scars in the membrane is not at all usual. The hearing was not quite so good as with the other ear, but he was not conscious of any difference until it was carefully tested.

By the side of this case I place another, where almost precisely the same accident occurred.

CASE 8.—A gentleman about thirty years of age was cover-shooting in the winter of 1873, and turning his head suddenly round to shoot at a rabbit, a twig of hazel-tree ran into the left ear and gave him great pain. I examined the ear two days afterwards. There was a small perforation in the posterior section of the membrane. This healed in two days, leaving the hearing unimpaired. So clearly was this the case that, in making a report on the matter to the Accidental Insurance Office in which the patient was insured, I described the hearing as having suffered no injury whatever.

CASE 9.—On November 11th, 1874, Mr. J——, aged thirty-five, applied to me for advice on account of an accident which occurred in this manner:—Three weeks before, he had in his sitting-room put together a fishing rod, and, on suddenly turning round in play with one of his children, had run the brass ring at the end of the last joint of the rod into his right ear, and perforated the membrane. The accident was followed by great pain, inflammation of the tympanic cavity, a profuse discharge from his ear, and extensive deafness. The inflammation had, when I saw him, extended from the tympanum to the mastoid cells; the tissues over the mastoid process were swollen, the surface was red and acutely tender to the touch, and he was in great suffering. All traces of the tympanic membrane were gone; there was a purulent discharge, and the deafness was extreme. Under the influence of leeches and hot fomentations the acute symptoms subsided, and the patient did not present himself again until January, 1875, at which time there was a profuse discharge from the ear, and the meatus was partially filled with a fleshy polypoid growth. This was removed by forceps, and the granular surface was treated with astringents. All trace of the tympanic membrane was gone, and the hearing considerably impaired. With the use of the cotton-wool support the hearing became fairly good, and the discharge ceased.

CASE 10.—On Nov. 17th, 1874, Mr. W. D—— consulted me with history as follows:—Up to July last he had good hearing, and never any trouble with his ears. During that month, in consequence of a stuffed feeling in his ears (which had only lasted a few hours), he forcibly inflated them, and in doing so the air passed through the right ear; he felt a loud crack at the time, together with acute pain. A few days afterwards a discharge appeared, and had been persistent ever since.

I found two small slit-like perforations, with red edges, one on either side of the handle of the malleus. The deafness was considerable. The perforations were very small, air passing freely through them. They presented not at all an unhealthy appearance. Whether they will eventually heal or not I cannot say, as the patient sailed the next day for Australia.

CASE 11.—On Dec. 17th, 1874, whilst a young gentleman aged twenty was seated at the table, his brother gave him a sound box on the ear. This was instantly followed by considerable deafness and tinnitus. On examination of the ear on the following day, I found a vertical slit-like rupture in front of the handle of the malleus to the extent of about half the membrane. He could hear the tick of a watch only when pressed close to the ear, and was very deaf to ordinary sounds. In five days the rupture was quite healed. From the time at which the accident occurred the hearing power gradually returned, until in the course of a fortnight it was of the normal standard, and the tinnitus had quite subsided.

CASE 12.—On Jan. 1st, 1875, I examined the right ear of a gentleman aged sixty-two, who had become suddenly deaf three weeks before while an attempt was being made to remove some cerumen from the ear with forceps. Previously to this the hearing had been good. There was a small perforation with red edges in the upper part of the posterior section of the membrane, and a very slight discharge. The hearing was subsequently improved in some degree, but the perforation has not closed, so that in all probability healing will not take place.

It will be observed from the foregoing cases, as well as from the ten others previously reported, that the conditions which eventually remained, either as to continuity in the membrane or hearing power, were various in the extreme, and this, at first sight, irrespective of the manner in which the accident occurred or the size of the original perforation. Out of the twenty-two cases, the perforation did not heal in ten; eleven healed, and one was in the process of healing when last seen; in six instances the hearing did not suffer at all; in the remaining sixteen it was more or less seriously impaired. But a return to good hearing by no means always followed the closure of the perforation, and in many instances, when the wound healed, the patients were far more deaf than in others where a purulent discharge continued through the opening into the tympanum. So we must look for causes to the impairment of function altogether independent of the lesion, so far as can be seen. There can, I think, be little question but that the chief of these is shock to the nervous structures behind the tympanum at the time of the accident. To take, in the first place, the instances where the rupture healed rapidly without any suppuration in the tympanic cavity. From the time of the occurrence of the accident the hearing never varied, and vibrations of sound conveyed through the bones of the head (the sound from a vibrating tuning-fork on the vertex, for instance) were heard less loudly on the affected than on the non-affected side; in fact, the perception to sound was affected while the conduction through the tympanum was not. This is what happens in the deafness which follows a blow on the head, a box on the ear, or an explosion near the ear, where no rupture of the membrane takes place. In truth, in instances of this kind the hearing is generally more irreparably injured than when the membrane has given way. On the other hand, when suppuration in the tympanic cavity follows the accident, the conduction of sound as well as the perception of sound becomes affected, and so we find that a vibrating tuning-fork placed on the head will be heard far more loudly by the injured than by the healthy ear. Thus the products of inflammation in the tympanic cavity become the second element which impairs the hearing.

THE TREATMENT OF PRIMARY DISEASES OF THE HEART.

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(*Concluded from page 721.*)

EVEN where dilatation of the ventricular chambers is associated with valvular disease, much may be done by treatment. Especially is this the case with disease of the aortic and mitral valves; valvular affections of the right side of the heart being less amenable to treatment. We all know that, in aortic stenosis, by increasing the strength of the left ventricle an equal amount of blood can be driven through a narrowed orifice in an equal time, and so perfect compensation may be attained, as is seen in the simple hypertrophy commonly met with naturally in aortic stenosis. Here digitalis is of the greatest service, if the hypertrophy be insufficient and incomplete. In mitral disease the use of digitalis is more generally admitted than in the case of disease of the aortic valves. Yet I venture to say that we have not yet learned all that digitalis can do—in the case of mitral regurgitation at least.

A brief digression here is desirable: it is in relation to the valvular vela and their ostia. In England many hold the opinion that in pronounced dilatation of the ventricles

the auriculo-ventricular ostia stretch until the valves become incompetent to close them; that, in fact, we can have valvular insufficiency, with integrity of the valves, by mere dilatation of the ostia. Such was the foundation of the exploded "safety-valve action of the tricuspid" theory of the late Wilkinson King. Rokitansky says that the valvular vela stretch along with the muscular chambers and ostia; while Oppolzer and Kürschner state that such valvular incompetency is anatomically impossible. In the case of the mitral valve, Wilkinson King found that it was equal to closing the ostium even when the flaccid dead left ventricle was distended to the utmost, a little leakage happening occasionally only. In fact, the mitral valve is rather more than equal to closing the left auriculo-ventricular ostium on the ventricular contraction. When, however, the mitral valve has become the subject of valvulitis, and its distensibility has been arrested by a deposit of connective tissue in its vela, then ventricular dilatation may lead to mitral insufficiency. Here reduction in the size of the ventricular chamber and the ostium will once more render the mitral valve sufficient and competent. We are all aware that dilatation with more or less of hypertrophy of the left ventricle is the common accompaniment of mitral insufficiency.* The following case illustrates admirably what may be done by well-directed treatment in such cases; unfortunately, however, such an excellent result is too rarely attained.

T. B——, aged eighteen, a clerk in the City, had rheumatic fever in January, 1874, and came under my care on April 20th of that year. He had then a distinct regurgitant mitral murmur, and an enlarged left ventricle, with an irregular pulse. He had also shortness of breath on exertion, felt very unequal to his work, was troubled with unpleasant dreams, and was pale and anæmic. Under digitalis and iron, as much quiet as was compatible with the continuance of his duties, long hours in bed, &c., he improved very much; indeed, made that improvement which experience would have led me to expect. On November 6th he showed himself again, when, to my astonishment, the murmur which had been audible at the left scapula was no longer to be detected. The heart was almost normal in size, and the patient declared that he felt well, and that his wind was nearly as good as ever, while he was now quite equal to his work.

I was so gratified with this result that I sent him on to Dr. Broadbent, who was kind enough to examine him, and who wrote me to the following effect:—"There seems now to be very little hypertrophy or dilatation of either chamber, and I find no murmur; but the pulmonary second sound is still loud, and there is a strident reduplication of the first just within the apex." I think that in this case the assertion may fairly be made that the injured mitral valve is once more equal to closing the ostium, now that the dilated muscular wall and ostium have regained their normal size, or, in other words, that almost the equivalent of a cure has been attained; with the difference only, indeed, that the mitral valve has lost much of its spare power, and that slight ventricular dilatation will in the future reveal its impaired condition. On Feb. 10th his condition was unchanged. On May 8th it was unaltered.†

I am the more inclined to assume this, as we know how the mitral valve becomes incompetent, in advanced aortic regurgitation, when the ventricular wall commences to yield. In such cases the mitral vela are injured, and do not stretch with the enlarging wall and ostium. Dr. Broadbent has shown me a striking case in point in one of his patients at St. Mary's Hospital, where this secondary mitral failure came on in a young man with aortic regurgitation. Owing to an intercurrent ailment the youth was confined to bed, the consequence of which was the mitral murmur is gone; and to all appearance the effect of the rest upon the ventricle has been to render the mitral valve once more effective. This case, taken with the one I sent on to Dr. Broadbent, suggests in the strongest manner what treatment may achieve in cases of mitral insufficiency.‡

We are all familiar with the good effects of digitalis in the free bronchial flow and dyspnœa of advanced mitral disease. Though by its action upon the right ventricle the blood-pressure in the pulmonic circulation is increased, the bronchorrhœa is checked and the breathing is relieved. One of the best cases of relief so afforded is that of a Westmorland peasant, who had rheumatic fever eighteen years ago, under the care of my late father. The treatment of digitalis and iron commenced by him was continued by myself whenever the symptoms became aggravated, and especially in the attacks of congestion of the lungs with hæmoptysis to which at intervals he was liable. During this time he has laboured continuously, but at light work of course. He writes me, Jan. 20th: "My general health is better than it was, due probably to my improved means. I have not required anything stronger than mustard as a blister for three years; but the slightest cold causes a spitting of blood, seldom for more than a day, and only a small quantity. At these times there is sudden quick throbbing of the heart, followed by a feeling of suffocation for ten or fifteen minutes; sometimes the throbbing goes off, leaving nothing disagreeable. Pulse regular, but sometimes very low. I go to work every day, but of course I choose a light job. My locomotives are as good as many of my age if I had the steam to propel them."

The use of digitalis in aortic regurgitation is a matter in which some difference of opinion exists. Many forbid its use here altogether, while others are in favour of its administration. I am inclined to think that it may be harmful or useful according to the stage of the disease. In the earlier stages of massive hypertrophy of healthy muscular fibre its use is objectionable. A brief consideration of the condition of matters will render this intelligible. The hypertrophy here is not to overcome any obstruction offered to the blood-flow, but to check and limit the dilatation of the left ventricle, now exposed to the distending force of the regurgitant current driven in by the recoil of the aorta. Without hypertrophy the ventricle would be rapidly dilated beyond the point of recovery by this new force. The hypertrophy here is conservative, and yet it is not without alloy. The enlarged and powerful ventricle at each systole throws a huge mass of blood into the arteries, and quick and extreme distension follows, so that atheroma of the aorta and other large arteries results. Here to give digitalis, and so to produce still more powerful ventricular contraction, is decidedly objectionable, and its use is contra-indicated. At this stage quiet and avoidance of effort are the best measures for conserving the compensatory growth. If we had a medicinal agent the opposite of digitalis—which would diminish the force of each contraction, and at the same time increase the number per minute—its use would be indicated.

If such is the case at the earlier stages of aortic regurgitation a very different state of affairs, however, obtains in the later stages. When the ventricle is beginning to fail, from fatty degeneration of the hypertrophied walls, then digitalis may be given with advantage. In evidence I may quote Clifford Allbutt "On the Effects of Overwork and Strain upon the Heart and Great Vessels" as to a collier, B. B——, aged forty-five, who had undergone heavy labour, and was suffering from double aortic disease, and was a patient in the Leeds Dispensary. "Though a man in this condition," says Dr. Allbutt, "has about as bad a form of heart disease as exists, yet by rest, digitalis, and steel much may be done for him, as is remarkably well seen in a patient of mine suffering under such mischief, who is now being treated at the dispensary by Dr. Fothergill." The relief afforded in this case, where there were terribly long intermissions, and the man was confined to bed when he first came under care, was very marked; and as long as the man refrained from labour he was fairly comfortable. So well did he feel that he was tempted to enter the pit once more, but the trial ended in death at an early date. An experience of a large number of such cases inclines me to regard digitalis as very useful when the compensatory hypertrophy is wearing out, but only as a palliative measure—as a means of prolonging life.

In maintaining the action of the right ventricle, when ultimately failing from left side disease or chronic lung disease, remedial measures are very desirable. Large hot poultices to the chest are here very useful. They not only relieve the venous congestion by dilating the cutaneous

* Niemeyer, vol. i., p. 353.

† An equally good result has been attained in a patient at the West London Hospital. The patient, a boy of fifteen, came under care on the 13th of October, last year, with mitral regurgitation following rheumatic fever. To-day (May 24th) he declared he felt well, and on examination neither myself nor the two resident officers could detect any murmur remaining.

‡ In Dr. Broadbent's case the mitral insufficiency is returning with the resumption of active habits.

vessels of the trunk, but the effect of heat upon the heart is to distinctly increase the vigour of the ventricular contractions. It is not only in chronic changes in the right ventricle that treatment will do good, and means calculated to maintain the ventricular action be beneficial; in the more acute conditions of failure of the right heart, as in bronchitis, pneumonia, and other states where the pulmonic circulation is affected, the means of acting directly upon the ventricle by medicinal agents are often of the greatest service. In such cases the pulse mounts and then intermits; there is much excitement in the distended right ventricle, which is becoming exhausted by the labour it has had to perform. We all recognise the peril associated with such a condition, and the imminent danger which encompassed the patient. Under these circumstances digitalis, combined with diffusible stimulants, is clearly indicated, and produces the most satisfactory change in many cases. It is superfluous to cite a case illustrative of this condition. When the tricuspid valve is affected little or nothing can be done by treatment.

In cases of right side distension from prolonged overexertion, as in professional runners, swimmers, athletes, &c., commonly known as cases of cardiac asthma, the value of rest, digitalis, and iron is quickly seen in the good results attained. The lost wind is recovered and the bottom is as good as ever in some cases; in others only imperfect repair is attained. In all cases resort to medical care is clearly indicated.

Increasing physiological and pathological knowledge, together with more careful observation of the effects of remedies and the indications for their use, point out to us very distinctly the objects at which we must aim in the treatment of primary disease of the heart, if we wish it to be successful. The cases given above will tend to demonstrate that this is not a mere hypothesis, but a simple expression of what may be actually attained. Of course no remedies will render compensatory growth permanent, nor dissolve out the connective tissue which contorts the free edges of a valve; neither can unpleasant symptoms be kept at bay for long in cases which are going rapidly and inevitably from bad to worse. Nevertheless, much may be done in very many cases, and life may be prolonged, even where there no longer exists the capacity to labour. Recent experience is demonstrating on both sides of the Atlantic that much may be done for both functional and organic diseases of the heart by well-selected measures, both in the way of preventive and of therapeutic treatment.

Of preventive measures nothing can be said at present; but of measures palliative or curative the following brief summary may be made:—

1. That it is of the utmost importance in the treatment of primary disease of the heart to reduce to a minimum the calls upon that organ. Consequently light labour alone must be attempted; and rest in bed is often very desirable at the commencement of a course of treatment, as well as at intervals afterwards.

2. Frequently much relief can be afforded when dropsy is present by unloading the distended venous system. Brisk catharsis gives great relief, and does not depress the patient, as might be apprehended.

3. In all cases the heart must be acted upon directly by agents which increase the vigour of the ventricular contractions, of which digitalis is the chief. This agent may be given uninterruptedly for years without any so-called cumulative action, if the cases are properly selected. If given in improper cases unpleasant consequences may follow its administration.

4. It is also very desirable that the nutrition of the heart be maintained by good food and iron in addition to the means mentioned above. Improvement in the general condition facilitates the action of the special remedies.

By a combination of these measures, adapted to the needs of each individual case, much may be done in cases of primary disease of the heart. What are the indications for treatment and the measures to be resorted to in cases of secondary affections of the heart—that is, where the heart-failure is due to some primary ailment standing in a causal relationship to it—will engage our attention on some future occasion.

Lower Seymour-street, W.

ON THE

CONVERSION OF MR. WAKLEY'S STRICTURE DILATOR INTO A CATHETER STAFF WITH SLIDING CATHETER FOR URETHROTOMY.

BY W. F. TEEVAN, B.A., F.R.C.S.,

SURGEON TO THE WEST LONDON AND ST. PETER'S HOSPITALS, AND LATE LECTURER ON ANATOMY AT THE WESTMINSTER HOSPITAL.

IF the last editions of the various English surgical textbooks be examined, it will be found that the staff illustrated and described for the performance of external urethrotomy is much the same as the one which Tolet, the inventor of the operation, used two centuries ago. True it is that some few surgeons have divided strictures on a hollow staff, and that others have employed a catheter staff; but I am not aware of any staff in use by the profession which is free from both the objections which attach to the common staff for urethrotomy. When the ordinary staff has been passed down the urethra, the question to be asked is this: Where has it gone to?—is it in the bladder? Unless this interrogatory can be affirmatively answered, the surgeon who operates is exposing his patient to risk. It is not sufficient for the surgeon to say that he thinks the instrument is in the bladder; he ought to be sure that it is there, as surgeons have before now operated when they thought the staff was in the bladder, and it has turned out that the instrument had been passed into a false route. With the ordinary staff one cannot be certain where it has gone to, and, to remedy the defect, a hollow staff has been used. The second objection is not so grave. When the ordinary staff is employed its shoulder marks out where the stricture begins, and accordingly the surgeon possesses the requisite information to enable him to fix, accurately, the spot for piercing the tissues; but, on the other hand, he does not know exactly where the stricture ends, and is obliged to grope about and feel his way bit by bit. Hence it is that when the staff is withdrawn it is sometimes difficult, and occasionally impossible, to introduce a catheter into the bladder, either because some distal tags of the stricture have not been divided, or that the incision into the urethra forms a kind of bay-window in which the catheter catches. Mr. Marshall has remedied this latter objection by adopting Mr. Thomas Wakley's principle of sliding an elastic catheter over the staff, which thus served as a guide.* Unless, however, the situation of the staff is absolutely assured, this remedy is of but secondary value. Everything hinges upon the position of the instrument.

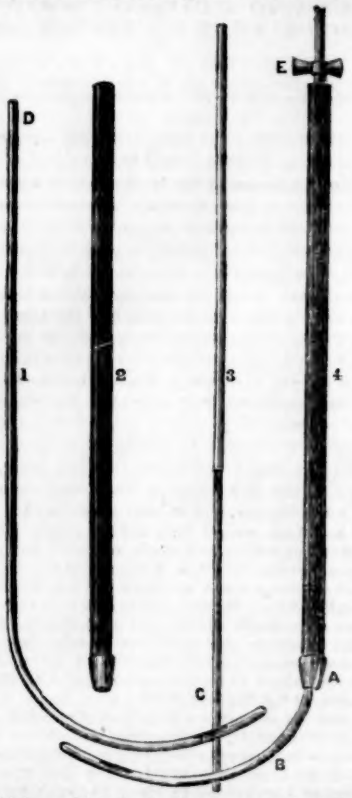
Some time ago, when searching for a guide for subcutaneous urethrotomy that would be free from the objections alluded to, I perceived that if a longitudinal piece were cut out of the convexity of the metal catheter employed by Mr. Thomas Wakley, a groove would then be formed for the knife to run in; and that if a slit were made in the ferrule of the elastic catheter, there would result, from the alterations effected, a compound instrument possessing advantages not attached to any similar one, so far as I was aware of.

Mr. Thomas Wakley's instrument consists, as is well known, of several distinct parts. A metal catheter (Fig. 1); a long rod (Fig. 3), to be screwed into the metal catheter (at D); an elastic tube or catheter open at both ends (Fig 2), to be slipped over the united rod and catheter till it arrives at the stricture; and, lastly, a small movable handle (E), which can be passed over and down the rod till it reaches the upper end of the elastic catheter, against which it is screwed tightly, so as to keep its vesical end well pressed against the obstruction. Now if we cut out a long narrow piece (about two inches in length) from the convexity of the metal catheter, we have at once made a groove (B, Fig. 4) for the knife to run in. This groove ought to terminate an inch and a half from the eye of the instrument.† The

* Sir W. Fergusson long ago invented, or used, a catheter-staff for external urethrotomy. His instrument was a great improvement on the staff employed by the late Professor Syme, but it lacked a sliding catheter.

† The portion of the catheter that will correspond with the prostatic urethra ought not to be grooved, in order to prevent the extension of the incision into a region where it can never be required.

next step is to have a slit (A, Fig. 4) cut in the metal ferrule of the elastic catheter for the knife to be inserted into it, and conducted thence into the groove in the metal catheter



(at B), which ought to be in the same straight line as the other one. A notch ought to be made on the upper end of the elastic catheter, and on the same side as the slit in the ferrule is placed, in order that the assistant may know which surface to keep to the surgeon's front.

Whether the operation be subcutaneous or external urethrotomy, the metal catheter is first passed into the bladder, and if urine issues from the instrument the operation may be proceeded with. If, however, no water comes out, it may be assumed that the catheter is in a false passage, and it must be withdrawn, and an attempt made to pass it into the bladder. Unless, however, the position of the instrument can be proved by the fact of the urine flowing from it, no operation ought to be undertaken. Provided the water escapes, the long rod may then be screwed into the catheter, and the elastic tube passed over and along it till it is stopped by the upper end of the stricture. The assistant then takes care to place the notch on the upper end of the elastic catheter so that it may face the surgeon, and, having screwed on the handle and made the convexity of the metal catheter to project well in the perineum, the surgeon feels for the metal ferrule of the elastic catheter at A, pierces he structures in a downward direction, keeping the back of his knife to the staff. The further steps of the operation will differ according as it be subcutaneous or external urethrotomy. When the surgeon thinks he has completely divided the stricture he can prove the accuracy of his supposition by trying to slide the elastic catheter into the bladder whilst holding the upper end of the metal rod in position. If all the stricture be divided the elastic tube will glide smoothly into the bladder, where it can be left or not, as the operator may desire. The metal catheter is then withdrawn through the elastic one, which it leaves *in situ*. Should the elastic catheter be obstructed at any point in its progress the knife must be introduced again, and any remaining tags of stricture cut through.

Mr. Thomas Wakley's instrument, modified in the way I have described, will be found invaluable for the performance of external or subcutaneous urethrotomy.

Portman-square, W.

A Mirror of HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

UNIVERSITY COLLEGE HOSPITAL.

FRACTURE OF THE ATLAS; PARALYSIS; DEATH.

(Under the care of Mr. JOHN MARSHALL.)

THE following case, for the notes of which we are indebted to Mr. A. Gould, M.B., house-surgeon, presents many points of clinical and medico-legal interest. The right lateral mass of the atlas was fractured on Dec. 17th; and there was at first paralysis of the right arm only, power of motion being still retained in the fingers and thumb of the right hand and in the left upper and both lower extremities. The respiration was thoracic, and the left side of the diaphragm could be felt to be in action. By degrees the loss of power became more pronounced in the right arm and hand, and on the second day had extended in a slight degree to the left arm, sensation remaining normal. On the third day both upper limbs were almost completely paralysed, and there was considerable loss of power in the right leg. On the fourth day the loss of power was complete in both upper limbs and nearly complete in the right lower limb. From this time the patient became gradually weaker, and died in a state of coma on Dec. 26th, nine days after the accident. The post-mortem appearances offered a ready explanation of these symptoms. The atlas had been broken on the right side, and inflammation set up in the adjoining portion of the cord, from which the morbid changes gradually extended downwards, involving both sides of the cord.

William M——, aged twenty-eight, was admitted on Dec. 17th, 1874. While cleaning a window on the second-floor he stood on the outside ledge, which was covered with snow, slipped and fell to the ground. He was found unconscious, with his head resting on one arm extending under it, and was at once carried to the hospital.

On admission he had recovered consciousness, but still exhibited some of the symptoms of shock. There was a very large collection of blood under the posterior part of the occipito-frontalis muscle; no fracture of the skull could be detected; no wound or external injury could be discovered. He complained of pain at the back of the neck opposite the third and fourth cervical spines; his head was forcibly turned to the left, the right sterno-mastoid and trapezius muscles, but especially the former, being strongly contracted. He could not move his right arm, but could move his fingers and thumb; there was no loss of power in left arm or in either leg. A catheter was passed; the urine drawn off was clear, acid, and contained a trace of albumen, but no sugar. Temperature at 2.30 P.M., twenty-four hours after admission, 99·4°; pulse 76, regular. Ordered spoon-diet; no medicine.

He slept well through the night, and on the 18th he sweated profusely; the tongue was furred and the breath foul; the bowels had not been open since admission. Ordered five grains of calomel. He could just move the fingers of the right hand, and had lost power in the left arm to a slight extent; he complained of tingling in the arms and legs when touched, more on the right side; no hyperæsthesia. Temperature at 10 A.M. 100·2°; pulse 84; respiration 24. The urine drawn off by catheter contained a considerable quantity of mucus and pus. After this the urine was drawn off regularly three times a day, but he also passed it involuntarily.

On Dec. 19th there was complete loss of power in his

right arm and hand. He could just move his left fingers a little. There was also considerable loss of power in right leg; none in left. Sometimes he complained of tingling when his right arm was touched, but nowhere else; there was no anæsthesia; the head continued turned to the left side; the mind was rather cloudy; the breath had a peculiar odour; the urine contained no mucus or pus; the respiration was thoracic, and the action of the left part of the diaphragm could be felt by the hand placed below the left ribs, but nothing of the kind could be felt on the right side. The same night he slept badly, and was at times delirious, talking of his horses, and fancying himself in his stable. On the morning of the 20th he remained much in the same state; when questioned, he said he could distinctly see his horses. There was complete loss of power in both arms, and nearly complete loss in the right leg. No tingling; no anæsthesia.

From this time he remained in much the same state, gradually getting weaker, until the 25th, when there were twitchings in the right leg, and possibly also in the left. The delirium ceased, and coma gradually supervened, and terminated in death at 1 A.M. on Dec. 26th.

Autopsy.—There was found a fracture through the right lateral mass of the atlas. At this part there was considerable inflammatory softening of the spinal cord, extending down along each side of the posterior longitudinal fissure. The right sterno-mastoid was bruised. The lungs were congested, but no lesion was discovered in the other viscera.

LONDON HOSPITAL.

SUPPURATIVE SYNOVITIS OF THE KNEE AFTER A SEVERE SPRAIN; TREATMENT BY THE ASPIRATOR AND ICE-BAGS; RECOVERY WITHOUT STIFFENING.

(Under the care of Mr. HUTCHINSON.)

IN the following case, at the date of the use of the aspirator the state of things was very critical, and very slight hope was entertained that incisions into the joint, followed very probably by excision or amputation, would be avoided. The successful result was in all probability due to the combination of the two measures, the relief of tension by the aspirator and control of inflammation by cold. Had the cold been omitted, in all likelihood the joint would have filled again.

The patient was a man aged twenty, who was admitted on account of acute inflammation of the left knee, which had followed a severe sprain received in slipping down a ship's ladder. He was admitted on Oct. 31st, and, in spite of treatment and complete rest, had got steadily worse, until a fortnight later all the signs of suppurative synovitis were present.

On Monday, Nov. 16th, the joint was distended with fluid, and the skin above the patella was thin and red, as if it were about to point. The man was very ill, with a temperature of 103°, a rapid pulse, and dry tongue. Mr. Hutchinson remarked that the conditions would fully justify incisions into the joint, but he preferred first to try the plan of drawing off the fluid by the pneumatic aspirator. The instrument was accordingly introduced into the joint at the spot where there was the greatest tendency towards pointing. About an ounce of distinctly purulent synovia, opaque and yellow, escaped, and then the canula became blocked. The instrument, which was a very small one, was withdrawn, the joint still containing a good deal of fluid.

On the following morning (Nov. 17th) the largest trocar of the aspirator was introduced near the same spot, and purulent fluid withdrawn to the amount of two ounces and a quarter. The patella no longer floated, but a good deal of swelling still remained. During the next twenty-four hours the man did not seem much relieved, and he passed a restless night, although he had a sleeping-draught. Evaporating lead lotion was applied. The next day (Nov. 18th) he began to improve, and by the evening he was surprisingly better. A couple of ice-bags were put upon the joint, the leg remaining as before upon a back-splint. There was no tension nor tenderness; no accumulation of fluid ever took place.

From this time till Jan. 1st he steadily improved, not a bad symptom being observed. After the 1st Nov. his temperature never rose above 99° F. Three weeks after the tapping the back-splint was taken off, and he was allowed to bend his knee in bed. This he did freely and easily, without any bad consequences. On Jan. 15th he was perfectly well; there was not the least swelling about the joint, and he could bend and extend it quite freely. He subsequently left the hospital quite well.

SOUTHPORT INFIRMARY.

EXCISION OF THE HIP-JOINT, AND REMOVAL OF THE WHOLE OF THE ACETABULUM WITH A PORTION OF THE DORSUM ILII.

(Under the care of Mr. GEORGE A. WOODS.)

CLARENCE A——, aged eleven, a thin, greatly emaciated, scrofulous-looking child, was admitted on Aug. 17th, 1874. His mother stated that he had been ill one year and ten months, and attributed his illness to a kick over the hip whilst at school. When she first noticed his lameness she took him to a medical man, who ordered absolute rest, combined with gradual extension by means of a weight attached to the foot, and a good liberal diet. He was kept in this way for some time, when his mother was advised to place him in the Clinical Hospital at Manchester, where he remained for close upon three months. He left the hospital improved. After being at home for some time his health gradually became worse, and there were evident signs of commencing suppuration, whereupon his medical attendant ordered him to Southport; but previous to his arrival in Southport suppuration was fairly established, and soon the whole of the joint was perfectly riddled with sinuses. Before this, however, he was allowed to walk on crutches, the affected limb being slung in a leather strap, which was placed round the neck. The leather strap was a device of the parents. The limb became much shorter about nine months before admission. His mother stated that prior to the kick he had enjoyed good health. On the father's side there was no trace of phthisis, but the family history on the mother's side was bad, she having lost her father and nearly the whole of the family with phthisis.

When the boy was first seen, on August 16th, 1874, he was in a greatly reduced state, suffering from hectic and copious discharge. He lay on his side, with his knees almost drawn up to his chin. The great trochanter was very prominent, the skin over it appearing thin and tense. There was one large sinus, crescentic in shape, about four inches in length, extending from a little below the great trochanter to the dorsum ilii. There were numerous other sinuses above the great trochanter. On examination with a probe, dead bone could easily be detected deeply seated in the region of the acetabulum. He was ordered liberal diet, plenty of milk, porter, and a mixture of the compound syrup of the phosphate of iron. Water dressing was applied. He was kept under this treatment for some days, but, on account of the large amount of discharge, the hectic, and the rapid loss of flesh, an operation was deemed necessary in order to save his life.

The operation was performed on August 23rd. Chloroform was administered, and a T-incision was made for about six inches over the centre of the great trochanter, which, owing to the greatly attenuated condition of the overlying tissues, was reached at once. Several of the smaller sinuses were slit up previous to the incision being made. The limb was forcibly adducted and rotated inwards, and, after a little dissection, the head of the bone was exposed to view, lying dislocated on the dorsum ilii. A retractor was then placed under the femur, about an inch below the neck, which was divided with a saw. After the head of the bone and parts below were removed, the acetabulum and adjacent parts were examined by the finger and found extensively diseased. The acetabulum was then removed, with very considerable difficulty, by means of a gouge. After this a portion of dorsum ilii was removed, together with a portion of ischium. After the operation the skin was fastened to the parts by means of wire sutures, the limb was placed in as straight a position as possible, water dressing applied, and extension used from the opposite thigh, and the patient placed in bed. The splint used was specially made for the purpose, and consisted of a planed piece of wood about three feet and a half long; in fact, a long Liston splint, with the exception that that part over

and a little above the wound was dowelled and fastened by means of two strong wires, so that by the withdrawal of the wires the wound could be easily dressed. But owing to the great pain caused by the limb being brought into a straighter position, which the lad described as "unbearable," it was deemed advisable to remove it, and to support the limb as well as possible by means of pillows.

The patient became so restless that the thin skin-flap gave way. The discharge became thick and healthy, and fine healthy granulations sprang up. The health greatly improved, and the lad took his food well, slept well, and by means of gradual and gentle extension the limb assumed a much better position. The case progressed satisfactorily for a considerable time, but six months after the operation the patient died of kidney disease. On examining the joint after death the wound was found entirely healed, and there was good motion. The shortening was four and a half inches.

In reviewing the history of this case it would appear that if rest and extension had been fairly tried and carried out from the very first, the lad would never have been in the sad plight he presented on admission. Mr. Woods has now under his care a patient with incipient hip-joint disease, in whom on admission there was intense pain at the knee, which the patient could not straighten. He was placed under chloroform, the knee straightened, a well-adapted splint placed on the thigh, extension applied, and a swelling which was observed in the region of the joint evacuated by means of the pneumatic aspirator, and now the pain in the knee is altogether relieved. The patient has good nights, and is gaining strength daily. There can be no doubt that where rest and extension can be obtained at the onset, this very insidious disease may, in a great number of cases, be brought into something like subjection. Rest and extension are now looked upon as remedial agents of no small value; they have been long tried for injuries, but until late years have not received that attention from surgeons which they so greatly merit. That large numbers of joints are by these means annually saved is certain, and cases of hip-joint disease terminating in suppuration are now less frequent than formerly.

CROYDON UNION INFIRMARY.

DISSECTING ANEURISM OF AORTA RUPTURING INTO LEFT PLEURAL CAVITY.

(Under the care of Mr. HORSLEY.)

FOR the notes of the following case we are indebted to Mr. Herbert J. Ilott, M.B., house-surgeon to the Croydon General Hospital.

H. H——, aged fifty-six, inmate of the Croydon Union, who was employed on odd jobs at the infirmary, on Saturday afternoon, March 13th, was assisting two other men to place a thirty-six gallon cask of beer on a stand. When they had accomplished their task, the patient said he feared he had strained himself. He then walked into the kitchen, which was close at hand, and sat down. He complained of pain in the region of the heart and in the left shoulder. His face soon became very flushed, and a copious sweat appeared on it, accompanied by trembling of the limbs. He remained in the kitchen about ten minutes, then rose and walked with assistance across the yard to one of the wards, distant about twenty yards. After sitting on one of the beds a short time his breathing became hurried, and his general aspect distressed. When seen by Mr. Horsley in the evening he was lying on his back, and had noisy and laboured breathing. He complained of great pain over the left side of the chest. On auscultation a loud systolic murmur was heard below the left nipple, extending to the axilla. It was then thought that he might have ruptured some of the chordæ tendineæ of the mitral valve. The patient died that night about one o'clock on the 14th, having survived the accident about ten hours.

Post-mortem by Dr. ILOTT, on March 15th.—Body spare. A small movable tumour was detected in the abdominal wall to the left of the mesial line; this on removal was found to be a nævoid tumour encapsulated, consisting of cavernous spaces filled with venous blood, a firm solid substance intervening. There was a large scrotal hernia, as big as a child's head, on the right side; this contained several coils of small intestine. The sac was much thickened with old organised deposit on the interior; the external and internal abdominal rings were closely approximated, the opening admitting three fingers. This hernia had always been readily reduced. THORAX: Left pleural cavity filled with dark loosely coagulated blood, enough to fill half an ordinary washhand-basin; no blood in right pleura; old adhesions on left side; no blood in pericardium. Heart, lungs, and large vessels removed *en masse*. On clearing away blood from the aorta and œsophagus, a rent of the coats of the aorta was found just below the origin of the left subclavian artery, from the arch extending for an inch and a half through the external coat in the axis of the vessel; at the upper border of this opening was a transverse rupture of the inner and middle coats, about half an inch long, across the upper half of the calibre of the vessel. On opening the heart and aorta, the left ventricle was found considerably hypertrophied, the mitral valve and its chordæ tendineæ much thickened; in the substance of the anterior cusp was a firm bony plate; the aortic sigmoids were thickened; the aorta, especially the arch, was considerably dilated; its coats were highly atheromatous. The rent above-mentioned was seen on its inner aspect. On further examination it was found that the blood had forced its way between the coats of the aorta from the point just mentioned as far as the point of bifurcation of the abdominal aorta into the common iliacs. Here a second laceration was found, running transversely through the inner coat, about a quarter of an inch long. The blood had passed between the points of rupture through a false channel on posterior and inner aspects of the vessel, between the external and internal and middle coats. A large, soft, black clot occupied the inferior vena cava and the iliac veins. Liver normal. Kidneys very small, hard, and tough, with small cysts here and there in cortex; capsule not adherent. Spleen normal. Lungs gorged at bases, otherwise normal.

Remarks.—The course of this case seems to have been, first, rupture of the internal coat of the aorta, at a spot weakened by atheromatous degeneration, during violent exertion, when the blood-pressure in the arch would be increased considerably above the normal by the contractions of an hypertrophied left ventricle; secondly, the formation of a dissecting aneurism, which caused so much strain on the external coat of the aorta that it gave way at the point where it was most exposed to pressure; and, thirdly, the blood gradually filling up the pleural cavity induced asphyxia by pressure on the lungs. The pressure of the distended aorta on the lower parts of the inferior cava seems to have occasioned thrombosis in this vessel and in the iliac veins, which, had the patient lived longer, might have shown itself by signs of impeded return of blood from the lower extremities. The diagnosis was obscure, as the symptoms were ill-defined, pointing merely to some grave injury to the circulatory apparatus. Another interesting point is, the length of time the man survived the accident, and his capability of walking about after so severe a lesion.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

THE ordinary meeting of this Society was held on the 25th inst., the President, Sir James Paget, in the chair. Some interesting papers were read, notably one by Mr. Gay, on a novel treatment of nasal lupus—namely, by excision, combined with a plastic operation. Mr. Lawson Tait's contribution on a case of congenital deficiency of the peritoneum was read in abstract only; and the Society adjourned till October 12th, several papers remaining on the list, including one by Dr. Dickinson, on the Pathology of Chorea, and one by Dr. Semple on Croup and Diphtheria.

The first paper read was on the "Treatment of Nasal Lupus by Excision," by Mr. JOHN GAY. Its object was to show that lupus exedens is a topically malignant form of ulceration; and that the alleged cures of this affection by constitutional means are probably due either to errors in diagnosis or to the inclusion under the generic term "lupus"

of forms of disease with which, typically, it has no natural affinity or alliance. In its objective features it most resembles epithelioma and rodent ulcer. Mr. Hulke's investigations have shown that the latter affection is essentially a local disease, and can be eradicated by the knife; in this respect, and in the absence of glandular infection, lupus resembles it. But rodent ulcer is chiefly a disease of age, lupus of youth; and the attenuated edge of the rodent ulcer close to healthy skin offers a marked contrast with the thick everted edge of lupus, surrounded by its pink zone of vascular injection. From epithelioma lupus is distinguished histologically, as well as by the extent of the ulceration and the presence of lymphatic implication. The pathology of lupus consists in the infiltration of the corium with large oval or round nucleated cells, establishing a raw surface which is more or less covered by the degraded epithelial elements; the subjacent fat, sweat- and hair-follicles are completely destroyed, so that the surface becomes depressed. Like rodent ulcer, essentially a local disease—for it can not only be completely eradicated by the knife, but its poison is only topically virulent, and lupoid sores are not met with at a distance from the primary ulceration,—it may and certainly does occur in persons with some of the ordinary general systemic indications of struma, but not, so far as Mr. Gay has observed, with those of strumous joints or glands. The conclusion to which dermatologists have come with regard to the influence of systemic remedies is favourable to this view of its essential character, for they have been compelled consistently to deny to drugs any therapeutic influence over an established lupoid sore. The only principle upon which it can be successfully treated is that of eradication by topical means. Caustics, however, have repeatedly failed, apparently from a want of a definite aim in using them. There has been no clear mode laid down of ascertaining the depths to which the virus of lupus has penetrated from its ulcer surface, consequently the amount of tissue that has to be destroyed in order to ensure its perfect eradication has been a matter of conjecture; but the limits of the poisoned tissue may doubtless be satisfactorily determined, these not being so wide as to be beyond the reach of the destructive powers of caustic potash. These limits are especially marked by the pink vascular zone surrounding the thickened margin of the ulcer; and the caustic should be applied to destroy not only the base of the ulcer, but all the parts within this zone. The objection to caustics, however, and the great advantage of excision arise from the fact that, in "nasal lupus" especially, in which disfigurement follows in the event of its being removed by caustic, cicatrisation, or an advance towards it, must be allowed to take place before any restorative operation of a plastic kind can be done—one of the most important objects in the treatment of cases of this kind. If the removal of the diseased parts be made by the knife, any such operation that may be deemed expedient may be simultaneously done, and thus tissue is saved, the loss of which would be incumbent on the use of caustic. The paper concluded by the relation of three cases in which this method of excision was adopted. The first was a young man in whom the ulcer had been unsuccessfully treated with pernitrate of mercury; excision was practised, and a plastic operation performed to make a new nose. The results of the plastic operation were marred by erysipelas, but the patient wears an artificial nose. The second case, also a male, aged twenty-three, was one in which the ulceration had perforated the right ala of the nose, and had been apparently treated by caustics with success. The edges were cut away, and a flap of skin from the cheek brought over the raw surface. The last case was a most remarkable one; it was that of a young lady twenty-seven years of age, who showed lupoid cicatrices in the neck; the tip of the nose, cartilaginous septum, and the alæ were destroyed by the disease, which invaded the contiguous mucous membranes. Mr. Gay removed the whole of the diseased surface to within a quarter of an inch of the nasal bone, and laterally to the naso-labial sulci, thus exposing a large triangular space, which was covered in by skin-flaps dissected from each cheek, the tip of the nose and septum being formed by a club-shaped portion of the centre of the upper lip. There was perfect union, and six months after operation there had been no return of the disease, the nose being, however, somewhat flattened.—Mr. MARSHALL said that Mr. Gay had not alluded to the galvanic cautery, which he had himself used with tolerable success. Its great advantage was that the diseased structures, including the thickened margin, with its characteristic rosy halo, could be readily extirpated.—Dr. SPARKS advocated the employment of solid nitrate of silver, which is readily bored into the diseased tissues, and does not injure the healthy parts, relating a case under his care a year ago, in which complete eradication followed three separate applications, the caustic being "bored in" until resistance was felt. He believed that Hebra now used this method solely, having given up potassa fusa and chloride of zinc.—Mr. GAY, in reply, said that no doubt the galvanic cautery was of great value, but what he specially insisted on was the economy of using the knife in those severe cases of lupus where a plastic operation was necessary, and could be undertaken at the same time as the excision of the disease. He had not tried nitrate of silver, but doubted whether it was a sufficiently powerful caustic to penetrate the tissues as thoroughly as potassa fusa, which he alone found of use.

A paper, contributed by Dr. ROBERT M'DONNELL, of Dublin, was then read. It referred to a case of Double Facial Palsy, with loss of taste in the forepart of the tongue, and was of physiological interest, as tending to prove that the so-called "gustatory" nerve was a compound nerve endowed with the function of taste by fibres derived from the chorda tympani. The patient was a young healthy man, of twenty-four years of age, in whom complete paralysis of the portio dura of the seventh pair of nerves followed exposure to cold and wet, the left nerve being first affected. There was no evidence of any central lesion of the brain, nor were any other cerebral nerves engaged. There was complete loss of the sense of taste in the forepart of the tongue, which the author attributed to paralysis of the chorda tympani. Tactile and thermic impressions were perceived in the forepart of the tongue quite as distinctly as in healthy persons. The defect in taste persisted longer than the motor paralysis. The secretion of saliva from the sublingual glands was not excited by irritants which produced copious flow in healthy persons. The case was chiefly of interest as supplementing one recorded by Dr. Althaus in vol. lii. of the Medico-Chirurgical Transactions, in which there was paralysis of the fifth pair on both sides, and in which the sense of touch in the tongue was lost, that of taste persisting.

A paper was then read by Mr. EDMUND OWEN, F.R.C.S., "On the so-called Partial Dislocation of the Humerus," in which the author endeavoured to show by the aid of four recent dissections that the cases which have been recorded as examples of true partial dislocation of the humerus are due to the effects of disease rather than of accident. The case instanced by Sir Astley Cooper in his "Treatise on Fractures and Dislocations," and that described by Mr. John Soden in the Transactions of this Society, vol. XXV., 1841, which have hitherto been considered as evidence that this form of displacement may result from "injury," were especially referred to as lending support to the opinion advanced by the writer. The paper was illustrated by specimens.—Mr. GASCOYEN said that all these joints when examined showed evidence of chronic rheumatic inflammation; they all occurred in old subjects, and other joints than the shoulder were in some cases found to be similarly affected. He fully concurred with Mr. Owen as to the non-existence of partial dislocation of the humerus from injury, for he was quite unable to see what forces could hold the bone in position when it was dislocated upwards.—Mr. GAY, on the other hand, contended that the changes met with in these joints were secondary to the dislocation; and he had certainly met with cases in which partial dislocation had followed direct injury to the shoulder. In support of this he related a case in which the head of the bone had been thrown up and out; there was immobility of the limb, and great swelling; reduction could not be effected even under chloroform. Bandages were applied so as to throw the head of the bone back into place; it has not yet fully returned, but movement has been restored to the limb.—Mr. MARSH said that no doubt many of these cases were examples of chronic rheumatic arthritis following rupture

of the long tendon of the biceps; but he fully believed in the existence of a partial dislocation of the humerus, and thought the bone would be held in position by the biceps tendon, which must be displaced when such dislocation occurs. He thought this was the case with Mr. Soden's specimen, which he had carefully examined. Hamilton gives a case of displacement of the tendon of the biceps with subluxation of the humerus.—Mr. OWEN briefly replied, pointing out that it was singular that he should have met with six cases (post mortem) in two years, often with both shoulders dislocated, and in two with similar chronic inflammation of the knee. In four of his specimens the tendon of the biceps was ruptured.

The usual time for closing the meeting having expired, the following abstract was read:—

"Case of Congenital Deficiency of the Peritoneum, resulting in Intestinal Obstruction and simulating an Abdominal Tumour," by Lawson Tait, F.R.C.S. On the 21st of January of this year, the author saw Miss M——, in consultation with Dr. Hickinbotham and Mr. Pugh, of Nechells. She had been suffering for three weeks from severe symptoms of intestinal obstruction, for which no treatment gave any effectual relief. At no time had there been any symptoms of peritonitis. She was thin and of small size; the temperature was normal, and the pulse a little over 100. There was obstinate vomiting, and slight headache. A small tumour in the rectum was diagnosed as an ovarian cyst, which could have no influence in the production of the obstruction. A tumour existed in the left hypochondriac and lumbar regions, about the size and shape of a large lemon. It seemed to fluctuate obscurely. It was dull on percussion, and could not be moved freely. The patient died unrelieved on the 24th, and in the evening of the same day Mr. Pugh made a post-mortem examination in the presence of Dr. Hickinbotham and Mr. Tait. The note of the condition of the parts has the concurrence of all three. On making the usual median incision it was found that there was no appearance of an abdominal cavity, the tissue of the anterior wall seeming to run on to the stomach and small intestines, and these latter lay matted together, looking exactly like the convolutions of the brain, only they were not covered with any glistening membrane. The coils were readily separable, and their union was due to an abundance of ordinary areolar tissue, identical with what is seen on separating fresh muscles by tearing. Nowhere was there any trace of inflammatory action, as everywhere the loose extensile tissue prevailed. The tumour in the left lumbar region was found to be composed of a number of knuckles of intestine, which were occupied by numerous nodules of hard fæces. The inability of the intestines to move these masses onward seemed to constitute the whole cause of the obstruction, as no actual constriction of the tube was found. In the pelvis none of the usual peritoneal limitations existed, so that it was impossible to identify the organs *in situ*, and it was only after very considerable dissection that the tumour, which had been diagnosed as ovarian, was found to be really so. The menstrual history of this patient was marked by no great abnormality, and there was no history of any peritonitis.

Reviews and Notices of Books.

Cholera: How to Prevent and Resist it. By Dr. MAX VON PETTENKOFER, Professor of Hygiene, University of Munich, &c. From the German. Translated by THOMAS WHITESIDE HIME, A.B., M.B., &c. London: Baillière, Tindall, and Cox. 1875.

THIS excellent translation of a popular exposition of the leading points of Professor von Pettenkofer's views is very acceptable; for, putting aside the question of the relation that the depth of ground water from the surface has to the development and spread of cholera and typhoid fever, it will still prove serviceable in awaking the public mind to the fact that the condition of the soil, subsoil, and underlying water has no inconsiderable share in the maintenance of health, and that their pollution is oftener a source of disease than is usually supposed.

In a clearly-written introduction Dr. Hime first shows the porosity of such substances as brick and sandstone by their hygrometric properties, and then proceeds to point out that if water penetrates so-called solid materials so easily, how much more readily will air, which is 770 times lighter than water, penetrate the soil. Thus a house built on gravelly soil rests on a foundation a third of which (if free from water) consists of air. These remarks are well illustrated by some of Professor Pettenkofer's experiments. This ground air does not remain at rest; it is constantly displaced by such forces as the wind and difference of temperature, and the law of diffusion of gases comes also into play. A house becomes heated by fires in winter time, and the air, or any gases contained in the porous soil, rush from the foundation into the house. The immense amount of suction on a ground gas exercised by the increase of a temperature within a house beyond that of the external air is well exemplified, both positively and negatively, in a case detailed on page 15. The direction of the current of air is altered, however, in summer to one in the opposite direction, flowing from the house to the underground, and towards the warm soil outside.

It has been suggested that an air-chamber a foot deep, and having the same area as the basement, with an asphalted roof to render it air-tight, should be made underneath the house. This chamber, communicating with the chimneys of the lowest storey, would allow of a harmless exit for noxious gases in cold weather, and, in warm, the air would rise through the soil to the outside, and secure the ventilation of the ground in the vicinity.

In the chart given by Professor von Pettenkofer the rise in the ground water at Munich for sixteen years, from 1855 to 1871, is shown to be simultaneous with a diminution in the mortality from typhoid fever. It is maintained that the nearer the surface the ground water is, the damper the soil, and the less pervious it is to those gases or germs that would give rise to typhoid fever; and a similar relation is said to exist between the ground water and the mortality from epidemic Asiatic cholera. According to Pettenkofer's views, then, the subsidence of the ground water leaves a fitting nidus in the soil for the development and spread of cholera germs. The disease is not caused by drinking-water, but may be disseminated by it, as it is by soiled linen. The extremes of drought and wet are not favourable to the spread of the disease, which is not contagious in the ordinary acceptation of the term.

We need not stay to discuss the truth or otherwise of the professor's views, nor to inquire whether, granting the general correctness of the relations he has pointed out, they are not susceptible of other explanations than those he has assigned. If the inquiry has not yet been exhausted, it has nevertheless been prosecuted by observations in India, this country, and elsewhere. It cannot be denied, however, that in insanitary conditions from pollution of the soil on account of improper drainage, the subsidence of the ground water may be a factor in the spread of the disease, as it is pointed out that carbonic acid increases proportionately to the depth of the soil, and the quantity of this gas is greater in summer and autumn. If it be an index to, and the result of, decomposition of organic matter, it is very probable that such decomposition may give rise to the development of something that may play an important part in the causation of disease.

Professor von Pettenkofer supports his belief in the non-contagiousness of cholera by the fact, that none of the attendants of the sick nor patients suffering from other diseases in the General Hospital at Calcutta have been attacked with cholera for a period of fifteen years, although during this time many hundreds of cholera patients were

admitted. He therefore attaches very little importance to segregation or quarantine as preventive measures. In the case where the disease is contracted in an unhealthy place from a cholera patient, arising from an infected district, it is supposed that the poison is conveyed "in some way that requires further investigation"; and if the new locality does not present the proper condition of climate and soil for the development of the disease, it does not extend beyond those first attacked. If this view be correct, which in the main we believe it is, it shows the necessity of the precaution taken in India on the outbreak of cholera—namely, the immediate removal of the troops from the infected district. And what we should regard as an important subject for investigation is this—whether a greater use could not be made of those stations and localities whose insusceptibility to cholera had been previously determined, for the site of cholera camps and places of refuge. On Pettenkofer's view, soiled linen or food may be the carriers of cholera poison, not because they belong to a cholera patient, but because they come from a cholera district. The fact of intestinal excretions being the carriers of poison is doubted; this may be the case in their recent state, but everyone will agree with the remark that intestinal discharges should not engage our attention to the exclusion of other sanitary measures.

Cholera may extend by traffic, but its spread in an epidemic form is determined, it is alleged, by geographical position and the climatic and atmospheric action of the soil; and it is well ascertained that summer and autumn are the seasons in which the disease prevails. The insusceptibility of certain soils to the development of the disease is very noteworthy; for instance, the right bank of the river Isar, at Munich, where a clay soil rests on a limestone gravel, through which the ground water never rises sufficiently high to reach the clay. The more porous a soil is, the more attention ought to be paid to drainage, to the doing away with ash-pits, to the construction of impervious ash-pits and privies so as to prevent soakage, and to the constant removal of refuse.

During the prevalence of cholera it is directed that particular attention be paid to the premonitory diarrhœa that generally ushers in each case, and house-to-house visitation is recommended. The establishment of diarrhœa stations is also advised. Errors of diet and chills are to be avoided, the latter by suitable clothing; personal cleanliness and comfortable beds are also insisted upon. Food coming from an infected district is, as a precautionary measure, to be boiled before use; pure air, pure soil, and pure water should engage the attention of every householder; soil-pipes and sewers should be ventilated, and sinks for carrying off refuse water trapped.

Although the amount of benefit to be derived from these measures is undecided, there is no doubt of their being essential to the maintenance of cleanliness. The quantity of hypochlorous acid which is evolved from chloride of lime, or, perhaps, more correctly speaking, chlorinated lime, is not sufficient for disinfecting. The point to be gained is to keep the dejecta acid; and sulphate of iron in the proportion of one ounce to a pint of water is recommended as the quantity sufficient per head per diem. Carbolic acid is favourably spoken of, and if the latter be used in the proportion of thirty-one grains for each person, only two drachms of sulphate of iron need be used. Sulphurous acid is also recommended, and all soiled clothes during an epidemic are to be steeped in a strong solution of quicklime or of carbolic acid.

It may be interesting to know that von Pettenkofer in his most recent work just issued shows, from an exhaustive analysis of the circumstances of the late epidemic in Munich, that it verifies his views, even in the unusual phenomenon of a secondary outbreak in mid-winter. If we have described more fully than we had intended the author's views, it is to be attributed to the fact that, even apart from their importance, they are so well and pleasantly presented to us in their English dress.

Clinical Lectures on various important Diseases. Being a collection of the Clinical Lectures delivered in the Medical Wards of Mercy Hospital, Chicago, by NATHAN S. DAVIS, A.M., M.D., Professor of Principles and Practice of Medicine and Clinical Medicine in Chicago Medical College. Edited by FRANK H. DAVIS, M.D. Second Edition. Philadelphia: Henry C. Lea. London: Trübner and Co. 1874.

CHICAGO is such a wonderful place that we are prepared to hear almost anything of it, but we were scarcely prepared to receive from it such an excellent little volume of Clinical Lectures as we have here, and which we commend to all clinical students and practitioners. Sometimes there is an abrupt and tantalising break in the middle of the account of a case, and we are left uncertain as to its termination or the results of treatment. Dr. Davis, too, adheres to a few therapeutical opinions—such as the use of bleeding in the acute pneumonia of young subjects, the use of tobacco enemata in intestinal obstruction (of which, by the way, he gives some striking instances), and the use of nitrate of silver in protracted diarrhœa—which, to say the least, have become unfashionable. But, with these two qualifications, our satisfaction in perusing these lectures has been great. Dr. Davis is a physician of at least thirty years' standing; he has a judgment of his own; a short, practical, clinical way of expressing his opinions; and, finally, he has faith in medicine. These are qualities which entitle him to consideration. His lectures are the more interesting as giving us the result of medical observation in Chicago, under social and climatic conditions different from our own.

Amongst the principal topics treated of in these Clinical Lectures are: continued fever, rheumatic fever, phthisis, scarlatina, summer complaints of children, diseases of the alimentary tract, diseases of the nervous system, cutaneous diseases, mania a potu, pneumonia, &c.

The chapters on the Summer Complaints of Children are good specimens of intelligent and discriminate writing. Infantile diseases constitute a class of cases figuring most largely in the mortality of our large cities, and even more so perhaps in the large cities of the United States, if we may judge from the admirable descriptions of their pathology and treatment which we receive from American authors. We commend Dr. Davis's lectures to the attention of our readers. The whole book, we repeat, is valuable as the outcome of thirty years of intelligent practice.

Studio Critico sulla Cura dei Tumori Emorroidarii Interni. Pel DOTTOR PASQUALE MORELLI. (A Critical Study on the Cure of Internal Hæmorrhoids.) Napoli. 1874.

THIS work contains in a small compass a very able monograph on the various modes of operative treatment of internal piles. The author discusses nearly all the methods which have been suggested or adopted from the time of Hippocrates downwards, and we find an able analysis of all principal works on the subject by English, French, German, and Italian writers. The operative procedures are carefully and concisely described, and their respective merits contrasted, and in some cases the question of their originator is carefully inquired into.

The author divides all the methods of surgical treatment of internal piles into four classes; (1) those consisting in a modification of the hæmorrhoidal tumour; (2) those producing necrosis; (3) removal; and (4) mixed methods.

Under the first head he discusses compression, incision, partial excision, cauterisation after the method first proposed by Viollet, but usually ascribed to Dupuytren, Verneuil's galvano-caustic puncture, electrolysis, and cauterisation with nitric acid. Of these the first three are entirely rejected, but the author thinks that cauterisation by Viollet's method, galvano-puncture, and persulphate of iron, as proposed by Allingham, require further observation; and that electrolysis deserves a more extended trial. The application of nitric acid is praised as an accessory, but the author thinks that alone it is rarely successful in effecting a cure. Under the head of methods for producing necrosis, the various plans for the application of the actual cautery, caustic potash, and ligature are discussed. Of these methods the author considers Langenbeck's mode of applying the cautery the best, as most certain and least dangerous; and prefers Amussat's mode of applying caustic potash. The methods of removal he divides under the heads of excision, galvano-cautery, and crushing, and states his belief that partial crushing and the galvano-cautery might be advantageously adopted in some cases. But of all the ways of treating internal piles he prefers the mixed operations, and after a discussion of the respective merits of Salmon's, Henry Smith's, and Galozzi's, he yields the palm to the two latter, each of which he regards as applicable to special classes of cases. He considers Smith's operation relatively inferior from the longer time required, but that the improved clamp is preferable where the tumours are rather hard and situated low down near the anus. Moreover, from the narrow linear eschar produced, it appears more suitable where there is any danger of excessive contraction. But where the tumours are soft and situated high up in the rectum, he considers Gallozzi's method preferable.

From its portable size, and concise and clear statement of the relative advantages and defects of the various operative measures, this work will well repay perusal by those who have to deal with this troublesome and often dangerous operation. Nor is it less valuable as a guide to the views of the principal English and continental surgeons on the subject.

On the Proper Selection and Scientific Application of Trusses. By CARSTEN HOLTHOUSE, F.R.C.S. pp. 26. London: J. and A. Churchill. 1875.

IN this little pamphlet Mr. Holthouse addresses himself to the non-professional reader, and gives the results of his experience, which has been large, in the selection of an appropriate truss. He says, quite truly, that trusses may be seen applied to all sorts of tumours, as to undescended testes, chronic abscess, &c., whilst it appears to be thought that any kind of truss is applicable to every form of hernia. As a general rule, he considers the triangular pad prolonged downwards into a well-padded thigh-strap is the most efficient for a scrotal rupture, a circular pad for an umbilical, an ovoid for a femoral, and an oval or pyriform for an inguinal which has not passed into the scrotum. He describes the various forms of pads and springs. Notwithstanding the plain directions that Mr. Holthouse lays down for the selection of a truss, we are of opinion that a patient had better consult a good practitioner than trust to his own intelligence in choosing one out of the many forms that have been so extensively advertised.

BEQUESTS, &C., TO MEDICAL CHARITIES. — The Leicester Provident Dispensary has received £100 under the will of Mr. John Swann, Ashton, and 50 guineas from Mr. Thomas Johnson. The Worcester Infirmary has become entitled to £100 under the will of Mr. Alexander Stephenson Fetherstonhaugh. The Goldsmiths' Company have given £100 to the Sanitaritan Society, London Hospital.

THE ARCTIC EXPEDITION.

So much has been said and written about the impending Arctic expedition that it may appear at first sight superfluous to occupy the attention of our readers with the subject. But knowing that it has most important hygienic as well as scientific aspects, that prevention of disease and maintenance of health are cardinal points, and absolutely necessary conditions on which the success of the voyage must depend; knowing, too, that all particulars, even up to the present time, placed before the public have been, of course unavoidably, of a fragmentary character, we have preferred to wait and watch, and to seize the best opportunity of a visit as close as possible to the eve of departure. That opportunity was afforded us on Wednesday last, through the courtesy of Fleet-Surgeon Colan, senior medical officer of the expedition, to whose terse and clear explanations we are much indebted. The sanitary aspects of the expedition naturally arrange themselves under three heads—(1) clothing, (2) diet, and (3) accommodation on board ship and during sledging operations.

Clothing.— Duffle, a sort of closely woven wool that thickens in washing, allows free transpiration, and does not harden in low temperatures, is the staple article adopted. Sealskin coats and furs will be taken. But furs are now practically ignored by the best authorities, because they become excessively stiff; the hairs are converted into so many icicles, and no transpiration whatever can occur through the skin. Some eiderdown clothing, manufactured by Messrs. Booth and Fox, is to be taken out for experimental purposes. Several varieties of boots are supplied, some of which have leather, and others leather and cork soles, but all reach beyond the knee, and all have duffle tops. In dry snow mocassins of stout chamois leather will be worn. We give here in epitome a complete suit to be worn during sledging operations:—Head: Welsh wig inside to forehead and sealskin cap over, the eyes being protected by blue spectacles and wire gauze, and the frames of the spectacles guarded by chamois leather. A face-cloth of duffle protecting the nose passes across, and each man watches his neighbour's organ for the blue mark indicating frost-bite. The throat is protected by a layer of duffle and a muffler.—Body: Two or three flannel and woollen jerseys are put on, then an enormous loose duffle coat, over which a brown-holland coat is worn, to keep off the snow. The legs are protected in the same way, and the feet are clothed successively in two pairs of woollen socks, a square of blanket wrapped over them, a woollen stocking that extends above the knee, and over all the Arctic boot. The hands will be encased successively in the Empress's mits, duffle mits, and sealskin gauntlets. Two extra pairs of socks are carried over the breast, in order that a change may be effected at night, if practicable. A water-bottle is also carried, but as its contents speedily freeze and become useless, the men, naturally enough, usually throw it away.

Diet.—The staple food during the sledging excursions is one or other form of pemmican. Pemmican consists of fine Scotch beef, with no fat, so carefully kiln-dried that no gravy drops from it. It is then mixed with suet, dried again, put between millstones, ground to powder, and made into 56 lb. cakes for convenient use. (These cakes were in former expeditions made of such a shape that if found by bears they were speedily opened and their contents disposed of, but as an oblong form devoid of corners is adopted in the present case, it is presumed that the meat may be left unguarded with impunity.) Pemmican biscuit will be tried for the first time in this expedition. It consists of pemmican mixed with flour and baked, and a large quantity of it has been manufactured at the Royal Victualling-yard, Deptford, under the supervision of Mr. Grant. Each man is allowed one pound of pemmican per day (which is equal to three pounds of Scotch beef and some suet) and half a pound of bacon preserved in suet. Breakfast consists of a certain proportion of the above, with tea or cocoa, heated by means of stearine in a very ingeniously-constructed portable kettle coated with duffle or "fearnought," and which also heats at the same time the water supplied to the men for their bottles. This is the only warm drink procurable during

the day. Rum is carried in the sledge, but, although supplied 40° over proof, it frequently becomes in severe weather as thick as treacle, and, as Dr. Colan aptly put it, is then little better than cold poison. The ordinary biscuit is carried in tins covered with indiarubber, and the ration is 15 oz. Although the foregoing notes on diet refer almost exclusively to the plan adopted during sledging work, we may here complete the notes on diet by recording that on board ship fresh (preserved) meats will be given alternately with salt meat, preserved vegetables, baked bread alternately with biscuit, desiccated cabbage, onion powder and garlic, a ration of rum, 2 oz. of Edwards's preserved potatoes, and 1 oz. of lime-juice, which last is to be given regularly immediately after the last issue of fresh provisions. Arrangements have been made for the manufacture of beer on board when the stores are spent, and some of this will occasionally be given to the men. The value of the "Pemmican" scale of diet is obvious when we record that eight men can take a sledge away furnished with provisions for seven weeks, as well as with tent and cooking utensils; and the specially excellent physique of the men is sufficiently indicated when we say that they are supposed to be equal to pulling 250 lb. each from ten to fifteen miles for several weeks together, this weight being, however, reduced at the end of the journey to about 80 lb. each in consequence of the consumption of provisions.

Accommodation.—We may now glance at the "accommodation" arrangements, and will take the "sledging" work first. When the party stop for the night, a simple canvas tent is pitched calculated to hold from six to twelve men, having two small air-holes, each about 1½ in. in diameter. An oilskin cloth is laid on the snow as a carpet, and over this a "duffle" blanket. Each man then takes off his boots, puts them under his head for preservation, and gets into a sleeping-bag made of duffle, with canvas top and bottom. The men lie head to feet alternately, literally packet like herrings in a barrel. In the morning the tent is (as Sam Weller would say) a "mask o' ice," and the air within is often so impure that a lighted match will not live in it.

The accommodation on board ship may be briefly described. Both are wooden vessels, and have no less than six solid skins down to the bilge, formed respectively by outer and inner plankings, the original skin of the ship, a layer of felt planked in, and an inside lining. Thus, as it appears, every possible arrangement seems to be made for warmth as well as strength, the ships being clothed after the same principle as their occupants. The spar and 'tween decks are painted to avoid moisture. The cabins will be heated by ordinary open stoves, and the smoke flues of these will be utilised to increase the temperature by conveying them on either side around and along the deck. All the officers appear fairly provided for, but it occurred to us that at present the hospital accommodation is barely sufficient. All below the 'tween is occupied by stores, for it will be remembered that the *Alert* carries but sixty-two, and the *Discovery* fifty-six, officers and men all told, both being vessels of about 700 tons. As the former was originally a sloop of war, and the latter is a converted whaler, the arrangements of the 'tween decks in each are somewhat different; but the above brief description holds good for both. There is no special scheme of ventilation in either. There are skylight scuttles (through the main deck) in most of the cabins, which, with the wardroom and other skylights, and double doors to the companions, should, under general circumstances, be sufficient.

It is almost superfluous to record that the Medical Director-General of the Navy has provided his staff with all necessary scientific and other instruments, including that by Pettenkofer for determining the amount of carbonic acid in the air of the tents, and a great variety of other useful adjuncts. The diseases properly incidental to Arctic expeditions well organised are really few in number. Snow-blindness has to be guarded against, and is specially apt to attack the first man of a sledge party, so that, as a precautionary measure, the leader is often changed. Frost-bite is of course here and there inevitable, and it is said that retention of urine sometimes gives trouble. Although what may be called civilised ablutions are difficult in the Arctic regions on board ship, and are impossible in sledging expeditions, it does not appear that the skin is, as a consequence, troubled with much, if any, "animated nature," for neither lice, fleas, nor the wood-destroying toredo flourish in excessively cold latitudes, although we have had unpleasant experiences of the former on the persons of Russian and Swedish sailors admitted into hospital in this country. It is hardly likely, with the vast antiscorbutic appliances at command, that scurvy will attack the very splendid men that compose the crews of these two ships.

It is a great pleasure to remind our readers and the public generally that those of our own "cloth" appointed to this expedition are well and worthily fitted for the responsible posts that they now occupy. Fleet-Surgeon Thomas Colan, R.N., senior medical officer, is the possessor of a Diane Medal (the "blue ribbon" of his Department), has served in the Russian, China, and Ashantee wars, in the last of which, on the Prah, he was specially marked for promotion on account of his services with Capt. Commerell. Staff Surgeon Belgrave Ninnis, R.N., has gained great distinction as a naturalist, particularly in Australian work, as also has Surgeon E. L. Moss, R.N., in marine botany and zoology. Surgeon Pottinger, R.N., though comparatively speaking a junior in the service, is known as the first man of his year in the official examination, and is well up in natural history.

The well-known skill and experience of Sir Leopold McClintock, the ability and great popularity of Capt. Nares, R.N., and the indomitable energy of Dr. Colan and his staff, have all combined to render the preparations complete. We are glad to wish the voyagers "God speed," and to know that on the day that this number of THE LANCET appears the little fleet will be starting under the happiest auspices, and will have, as we hope, an equally happy return.

SULPHATE OF CHINCHONIDINE.

To the Editor of THE LANCET.

SIR,—The note on sulphate of chinchonidine in your issue of the 15th instant, by Dr. Yeates Hunter, records results so diametrically opposed to those arrived at by the committees appointed in 1866 to report on the subject, and to which you drew attention in THE LANCET about two years ago, that a few words of caution to those interested will not be amiss before assent is given to them. The insufficiency of Dr. Hunter's data, when compared with those on which the conclusions of the committees were founded, will be apparent. Neither in their nature, number, nor in the circumstances in which they occurred are his cases the best suited to test the question satisfactorily. This can be much better done in the highly malarious districts, such as Sind and Guzerat, where hundreds of cases, about the exciting cause of which there can be no doubt, are under treatment at the same time. Such experiences will, no doubt, be forthcoming, as they were before, and if they lead to different conclusions on this occasion as to the relative value of the chinchona alkaloids, it is much to be desired that the grounds on which the new decision rests may be as clearly and elaborately stated as was the evidence that satisfied the committees, especially that of Madras, in 1866. It is of very great moment that the truth should be ascertained, were it only for the cheapening of quinine, which, as pointed out in THE LANCET, must follow the extended use of the other alkaloids.

I remain, Sir, yours &c.,

May, 1875. J. P. S.

THE NORTH-EASTERN HOSPITAL FOR CHILDREN.—The annual meeting of the governors of this Charity was held on Tuesday last at the London Tavern, under the presidency of Lord Frederick J. Fitzroy. The report, adopted by the meeting, stated that 238 in-patients, 12,345 new cases, and 41,649 attendances of out-patients had been relieved during the year. Twenty-four children had been sent to the Convalescent Home, Croydon. Among many donations the committee acknowledged £600 from the President. Mr. J. Gurney Barclay £500, Mr. J. A. Le Lacheur £100, Mr. Morley, M.P., and Mr. R. Foster £100 each. From the Baroness Meyer de Rothschild a donation of £150 had been received in memory of the late Baron Meyer Amschel de Rothschild, and the committee acknowledged £300 from the executors of the late Mrs. Mary Grey Ratray.

THE LANCET.

LONDON: SATURDAY, MAY 29, 1875.

WE are not about to boast of having from the first suggested the expediency of adopting the course which the Government is about to follow in reference to vivisection; but we cannot avoid expressing our gratification at the statement made by Mr. CROSS in the House of Commons on Monday. From that statement we gather that the subject is to be investigated by a Royal Commission as a preliminary step to any legislation; and Mr. CROSS took care to state that a good deal of ignorance at present prevailed in regard to it.

We have already said, and we repeat, that we are not opposed to the adoption of any measures for restricting animal experimentation that previous inquiry has shown to be necessary; but it seemed to us impossible for any thoughtful or well-informed person to avoid feeling indignant at the spirit of insincerity and exaggeration that has been displayed. Without knowing the extent of the alleged evil, without making any attempt to appreciate the bearings of the question, and with a total disregard of the abundant sources of physical suffering affecting the lower animals, altogether outside and apart from the alleged practices of physiological or pathological inquirers, a certain class of persons seemed bent on doing something. The result of all this stimulation to action of some kind was the introduction of two rival Bills on the subject, neither of which was capable, practically speaking, of fulfilling its object, notwithstanding that one of them had evidently been drawn up with great care and ability. The fact is that the subject is a large and abstruse one, and the more one reflects on the difficulties in the way of legislating reasonably, satisfactorily, and effectively in regard to it the greater do these difficulties appear. In the first place, to what extent are painful experiments on animals carried on in this country? When people read of thousands of dogs being sacrificed by a physiological investigator abroad they are very apt to draw false inferences therefrom. We hope the statement is a gross exaggeration as applied to any physiologist abroad; but we are perfectly convinced that it is utterly untrue as applied to physiologists in this country. We do not, of course, contend that any cruel and reckless experiment would be justifiable; but the point to be first ascertained is—what is a cruel and reckless experiment? We have no mental reservation in declaring our abhorrence of all cruelty; and we contend that the power to inflict suffering on the lower animals or to take their lives carries a certain responsibility along with it. But we hold, with most people, that there are circumstances under which we are perfectly right in incurring such responsibility, and we want to have it ascertained whether the limits can be defined within which animal experimentation is proper and justifiable. To do this, it is beyond all things necessary to have the matter removed from the realm of prejudice and passion, and submitted to the careful consideration of well-informed men. To compare, for example, an experiment on the body of a recently decapitated turtle or frog with another undertaken on a sensitive dog is ridiculous. It would be unjustifiable to perform some well-known but painful experiment on an animal for the purpose of class demonstration; while it might be perfectly justifiable to perform another experiment on one of the lower animals for the purpose of solving some problem that had a direct bearing upon the innocence or guilt of a prisoner charged with murder. Of course we have only touched the fringe, as it were, of the question; but we end, as we began, by declaring our great gratification at the course about to be adopted by the Government. Let the facts be, first of all, ascertained and dispassionately weighed, and we shall then be better enabled to state whether any, and, if any, what limits should be imposed on the conduct of experiments of this nature. One thing seems tolerably clear, however,—that the physiologists, pathologists, and scientific men of this country, if we may judge from the character of the measure proposed by Dr. LYON PLAYFAIR, have shown that they are animated by a more reasonable and humane spirit than those who inconsiderately condemn alleged cruelty in one form, while they condone it in other and worse forms.

DR. BUCHANAN, one of the assistant medical officers of the Local Government Board, as this year's Orator of the Medical Society of London, was not less happy in his treatment than in his choice of the subject he fixed upon for his oration. He took for his theme "English Hospitals in their Sanitary Aspects"; and he dealt with it from two points of view: first with reference to the sanitary governance of hospitals, and next with reference to hospitals as part of the sanitary organisation of the kingdom.

The popular agitation which now exists in the metropolis against the building of a permanent hospital for infectious diseases at Hampstead, and which has lately seriously impeded the erection of infectious disease hospitals in Birmingham and elsewhere, proves how imperfectly the public, as well educated as uneducated, have as yet understood the objects aimed at by the establishment of such hospitals. The diseases known as infectious constitute, as Dr. BUCHANAN states, a large part of the sickness commonly spoken of as preventable. Very much of this sickness is preventable only in proportion as infected patients can be isolated. In the vast majority of cases, isolation is impossible in the homes of the sick, and is to be obtained only by the provision of proper hospitals for each community, and having these ready beforehand. Where the home affords no separate room and no separate bed; where the infected patient has to be nursed by a person who has also to tend a family; where whatever cleanliness and disinfection may be needed, such cleanliness and disinfection are impossible,—there are the conditions which necessarily foster the propagation of infectious sickness, and from which the hospital is the only escape. In a well-ordered hospital all these conditions are reversed; and the danger of dissemination of disease (it matters not what the contiguity of the building may be to

other buildings) is practically put an end to. It is amazing that persons should find it so hard to understand that the chief sources of propagation of infectious diseases arise from the at present necessary retention of infectious sick under conditions where isolation is impossible, and from the unconscious exposure of every section of society through its ordinary business or domestic relations to the infection. This truth, still so imperfectly understood, was one of the foremost lessons, as DEFOE relates, of the great plague of 1665. He tells us, in his "Journal of the Plague Year," that "the infection generally came into the houses of citizens by means of their servants, whom they were obliged to send up and down the streets for necessaries—that is to say, for food, or physic, to bakehouses, brewhouses, shops, &c.," and who caught the disease while thus moving among infected localities; and next, he comments on the "great mistake" of but one pesthouse having been provided for the City, capable of containing from 200 to 300 people, instead of "several pesthouses, every one able to contain a thousand people." Dr. BUCHANAN estimates that, in order to limit effectually infectious disease in England, there should, with its present population, be a permanent standing provision for 22,586 cases—that is to say, on the scale of one bed to every thousand of population. The actual provision in 1871 was some 2040 beds; of which no less than 1470 were in the metropolis, leaving only 570 for the rest of England!

Dr. BUCHANAN'S observations on the sanitary governance of hospitals were not less important. The sanitary governance of general hospitals, he tells us, has not been developed proportionately with our knowledge of their hygienic requirements. To this cause he attributes the recurring outbreaks and sometimes persistence of infectious surgical diseases in the wards of hospitals—the newest hospitals as well as the oldest,—and which have proved so disheartening to hospital managers, and often cast a doubt upon seemingly the best-established principles of hospital construction and arrangement. He argued that the sanitary governance of a hospital was of equal importance with the medical, and he showed the want of "a competent and responsible officer, whose business it should be to keep the governing body informed of the facts" as to the sanitary arrangements required to fit the institution for the care of a number of sick. "Just," he added, "as there should be someone charged with the duty of seeing to common drainage and accumulations, so there should be somebody to answer for the more special sanitary arrangements of the place; whose business it should be to make sure, for instance, that stools possibly infective are disinfected before they are discharged into drains—that foul dressings are daily burnt—that patients, on their admission, are put in the particular wards and placed under the particular circumstances that shall suit them best; who should be responsible for preventing accumulation of suppurating wounds in a ward, and for separating with all proper precautions any case that threatens to be erysipelas. Surely all these things should be somebody's business. They cannot well be the affair of the non-resident physicians and surgeons; they ought not to be the affair of student-officers; still less ought they to be considered as merely the concern of a steward or matron, or perhaps of a nurse or a servant."

In support of his conclusions and suggestions, Dr. BUCHANAN referred to a recent inquiry of "a skilled observer" as to the prevalence of erysipelas in an accident ward, and which was typical of the kind of faults which permitted traumatic infections to obtain currency in a hospital. It may be surmised that he referred to an inquiry lately made as to the prevalence of erysipelas in the Radcliffe Infirmary, Oxford. At any rate, this inquiry so completely illustrates Dr. BUCHANAN'S conclusions that it may well be referred to here.

Last year a succession of cases of traumatic erysipelas, some fatal, took place in the wards of the Radcliffe Infirmary, and Mr. NETTEN RADCLIFFE was induced by the governing body to make an inquiry into the sources of the prevalence. The particular sources he discovered—namely, certain defects of sanitary arrangement and ward management—are of little moment for our present purpose. The chief interest of his report on the inquiry, which the governing body has made public, consists in the statement of the conditions of hospital control under which the defects had arisen. He shows that the common cause underlying the defects which determined the prevalence of erysipelas was the necessary want on the part of the governing body, under the present mode of management of the infirmary, of such information as it would be the duty of a competent, responsible sanitary medical officer to give them. None of the different members of the medical staff or other members of the governing body or of the general staff of the infirmary were in the position at any moment to know the general sanitary condition of the wards and of the patients within them, and, as a consequence, erysipelas had assumed formidable proportions before its presence in the infirmary became known to the governing body, and the conditions which determined it could receive the consideration they deserved. Mr. NETTEN RADCLIFFE suggests a scheme for the sanitary governance of the infirmary, in complete accordance with the suggestions which Dr. BUCHANAN makes for the sanitary control of hospitals generally. His report very usefully supplements Dr. BUCHANAN'S oration.

WHEN, some months since, Mr. SEYMOUR HADEN roused public attention on the subject of burial by his very able letter in *The Times*, we devoted a leading article to his topic, and therein we acknowledged the great service he had rendered the community. Taking advantage of the Parliamentary recess, Mr. HADEN has again brought the matter forward, and, in a very lengthy letter to our contemporary, he traverses once more his old ground. We cannot think, however, that the importance of the last letter is at all in proportion to its length; neither, in our opinion, does the writer of it shine particularly on this occasion in either of his three characters of the man of science, the undertaker, or the poet.

As a man of science, we think Mr. HADEN has committed the very pardonable error of trying to claim too much for his method; and the confiding reader of the first part of his letter would be led to infer that organic matter is not

only incapable of putrefaction, in the ordinary sense, if buried in the earth, but that it is incapable of working any harm. The ordinary reader could infer nothing else from the following paragraph, for instance, in which the high authority of Mr. SIMON is invoked by Mr. HADEN:—

"NOT, again, is the effect of the earth upon fluids in a state of putrescence at all less remarkable than upon solids, filtration through a few feet of common earth being sufficient to deprive the foulest water of any amount of animal or other putrid matter contained in it. We need go no further for a proof of this than to a certain pump in Bishopsgate-street which stands opposite the rails of the old churchyard there, and of which Mr. Simon, the distinguished medical officer of the Privy Council, gives us the following interesting account:—'The water from this well is perfectly bright, clear, and even brilliant; it has an agreeable soft taste, and is much esteemed by the inhabitants of the parish, though, as will be seen by the subjoined analysis, it is an exceedingly hard water ..... (yielding carbonates of lime and magnesia, sulphate of lime, chloride of sodium, nitrates of potash, soda, magnesia, and ammonia, silica, and phosphate of lime, but of organic matter none or scarcely a trace). ..... The quantity of nitrates in this water is very remarkable. These salts are doubtless derived from the decomposition of animal matter in the adjacent churchyard. Their presence, conjoined with the inconsiderable quantity of organic matter which the water contains, illustrates in a very forcible manner the power that the earth possesses of depriving the water that percolates it of any animal matter it may hold in solution; and, moreover, shows in how complete and rapid a manner the process is effected. In this case the distance of the well from the churchyard is little more than the breadth of the footpath, and yet this short extent of intervening ground has, by virtue of the oxidising power of the earth, been sufficient wholly to decompose and render inoffensive the liquid animal matter that has oozed from the putrefying corpses in the churchyard.'"

The above, we are afraid, would be likely to cause a false impression, for it is a well-ascertained fact that the surest carrier and most fruitful nidus of zymotic contagion is this brilliant, enticing-looking water charged with the nitrates which result from organic decomposition.

What, for example, was the history of the Broad-street pump which proved so fatal during the cholera epidemic of 1854? Was its water foul, thick, and stinking? Unfortunately not. It was the purest-looking and most enticing water to be found in the neighbourhood, and people came from a distance to get it. Yet there can be no doubt that it carried cholera to many who drank it; and its analysis showed that in composition it was very similar to the water near the graveyard in Bishopsgate-street alluded to by Mr. HADEN. We are afraid Mr. HADEN will have to confess that at present the only known method of making organic matter certainly harmless is the process of cremation.

Again, we cannot quite see why Mr. HADEN dwells at such length on the signs of death; and surely it is simply ridiculous to talk of the sphygmograph as an instrument of delicacy for determining that which the senses of touch and hearing fail to inform us of. Why the stethoscope, the sphygmograph, the equilibrium of temperature are brought to the front, and *rigor mortis*, the surest and most unerring sign of all, is kept in the background, we cannot say, unless it be that the latter sign is too little in harmony with the picture which Mr. HADEN tries to draw of what other poets speak of as "the King of Terrors."

Next, as an undertaker, we think Mr. HADEN is not quite practical, and with all deference we would urge that the preparation of a corpse for burial is a business which demands from those who do it strength, knowledge, and experience, and is not at all likely to be efficiently performed by the ordinary servants of a family. One small matter which we should deprecate from a hygienic point of view is the maintaining of a fire in the chamber of death. Again, we have not been able to get a very clear notion of Mr. HADEN'S wickerwork coffins. He says: "As a part of the *ordinary* stock in trade of every turner, brushmaker, or basketmaker will be found, nested one within the other, and of every form and dimension, the necessary covering or coffin,"—and this is all, and surely this is vague enough; but in practice it will not do to have any vague notions about an apparatus which shall be able occasionally to convey a heavy body—sometimes packed in charcoal—a long journey by rail. It would have been of greater practical use to have given the address of the basketmaker where a suitable apparatus may actually be seen and criticised.

Mr. HADEN'S high appreciation of the æsthetic has enabled him to bring forward a disagreeable subject in a pleasant manner; but at the same time it seems to have in some measure prevented his being quite so explicit as it is necessary to be upon a subject which has to be practically dealt with as a part of the almost daily duty of all of us.

THE "Influence of Woorara on the Quantity of Lymph and upon the Emigration from the Bloodvessels of White Corpuscles of the Blood" has been lately the subject of two interesting memoirs: one by DROZDOFF, a Russian investigator, the other by TARCHANOFF; the observations of the latter having been undertaken to control the remarkable results obtained by the former. DROZDOFF found that the addition of a little woorara to the serum of the blood of a mammal containing white corpuscles from the frog caused the entire, or almost entire, disappearance of the corpuscles in the course of half an hour or an hour, a little finely granular matter alone remaining. He next proceeded to investigate the action of the poison on the white corpuscles whilst still circulating in the vessels, and found that, after injecting very minute doses, no alteration was observable in them for some hours; but that on the following morning the greater number ceased to perform amœboid movements, and became round and very granular. Towards the close of the second day no white corpuscles could be discovered at all in the specimens of blood taken for analysis, and the only remains of them seemed to be a few minute granules without definite form. Some days subsequently, when the power of reflex action had returned, a new brood of white corpuscles were seen, characterised by their small size and greater transparency. The results of TARCHANOFF'S experiments are by no means in accordance with those of DROZDOFF. He made use of the moist chamber of RANVIER, in which the white corpuscles of the frog will preserve their amœboid movements for eight or ten days; and, instead of using the serum of a mammal as the preserving fluid, used

that of the frog itself. On the addition of woorara he found that the white corpuscles shot out broad and rounded processes, instead of thin and branched ones, and that in the course of a few hours they became spherical, motionless, and coarsely granular, with one or two nuclei; they remained in this state for about a day, and on the second or third day they disappeared completely, leaving a granular mass, in which numerous bacteria made their appearance. The red corpuscles underwent little or no alteration. The destruction of the white corpuscles was not constant with all specimens of woorara, and some kinds were much more powerful than others; but M. TARCHANOFF doubts whether the difference of effect is attributable to the specific action of certain ingredients in the poison or to the presence of more or less alkali. TARCHANOFF found, in opposition to DROZDOFF, that, by the side of heaps of dead white corpuscles, living and active ones might be found apparently in quite a natural condition.

In his experiments on the action of woorara on the corpuscles in the living body, TARCHANOFF, although he was not able to substantiate DROZDOFF'S statement to the effect that the whole of the white corpuscles had disappeared, nevertheless did satisfy himself that the blood of frogs under the toxic action of woorara was always poorer in white corpuscles than that of healthy frogs. But he noticed a second and almost equally important fact—namely, that the decrease of the white corpuscles was accompanied with a very great increase in the number of the red corpuscles. Thus he ascertained by direct counting that, whilst in healthy frogs the number of the two kinds of corpuscles in one millimetre cube was 200,375 red and 10,412 white, in woorarised frogs, on the fifth day of the experiment, their numbers were 514,436 red and 6759 white. To what are we to attribute these remarkable phenomena? Are they due to a rapid transformation of white corpuscles into red, or to a concentration of the blood caused by more active transudation through the vessels with emigration of the white corpuscles? The first proposition is scarcely admissible in view of the destructive action of the poison on the white corpuscles outside the body; but the second seems probable, and moreover admits of further corroboration by an examination of the lymphatics and lymphatic sacs; and, in fact, the result of such an examination was to show that the chief lymphatic sacs were filled with lymph rich in white corpuscles, presenting lively amœboid movements, which, when the toxic influence of the drug passed off, again entered the vessels. Further careful examination of the tongue and web of the foot of the frog demonstrated the escape of the white corpuscles from the vessels in large numbers on the second, third, and fourth days; and this TARCHANOFF attributes to the paralysing action of woorara, partly on the muscular system generally, but partly and chiefly on the vaso-motor system, allowing the vessels to dilate and the blood-pressure in the capillaries to increase, thus favouring the emigration of the corpuscles and the formation of the lymph with which the lymph sacs were always so distended.

IT is reported from the Continent that out of 6000 men sent out by the Dutch Government against the Atchinese in Sumatra, no less than 1000 have died since December last from cholera and other diseases.

Annotations.

"Ne quid nimis."

THE PUBLIC HEALTH BILL.

THE Public Health Bill as amended in Committee is most conspicuously changed by consisting of 341 clauses instead of 331, as in its original state. The Bill was delivered at too late a period to admit of detailed examination of the different amendments this week, but it may be stated that these do not affect its general character as a work of consolidation, and are subsidiary to that object. The most interesting matter in connexion with it is the speech of Mr. Sclater-Booth in the House of Commons on going into Committee on the Bill on the 25th inst. He gave a frank explanation of the policy of his Board, strongly in contrast with Mr. Stansfeld's plausibilities when he was in office, and fully confirming the opinions we have formed on its retrograde administrative measures. He spoke of the appointment of "skilled and competent inspectors"—meaning inspectors of nuisances—by sanitary authorities, as if it were a question of infinitely more importance in the sanitary work of an authority than the appointment of the medical officers of health. He dealt with these appointments, not as correlative appointments for a common object, but as conflicting appointments with a divergent object. Of sanitary work as essentially a work of disease prevention, and as such determining the relative position and labour of the two officers, he betrayed as little accuracy of conception as Colonel Bartelott. This latter gentleman's amazing crotchet, that Dr. Playfair had proposed that "the whole country should be placed under the supervision of medical authorities in London," is an illustration of the crudity of thought of too many educated men of the relation of medicine to sanitary work and administration. Mr. Sclater-Booth's observation on the appointment of medical officers of health for large areas is reassuring, as showing that he is not prepared to push at all hazards the sham combination appointments for which Mr. Stansfeld is responsible. But his observations on Dr. Playfair's remark that his Department should exercise an effective supervision over the health of the kingdom, as a necessary part of its supervision of the action of sanitary authorities in the performance of their duties, showed that he was almost as much at fault with this part of the subject as Colonel Bartelott. Mr. Sclater-Booth's view of the medical staff of his Department seems to be that their function is to aid, by advice or otherwise, in rectifying or diminishing the evil effects of the sanitary blunders of the central or of local sanitary administration, not in preventing them. He is not, it is true, responsible for this brilliant conception of the functions of medicine in sanitary administration; he inherits it from his predecessor, but he has clearly not the less adopted it. As our contemporary, the *Practitioner*, aptly said the other day, the name of medical officer of health is in the view of the Local Government Board a misnomer, and it should be the medical officer of disease; in other words, the inspector of nuisances is regarded by the Board an officer of health, the medical officer of the sanitary authority being an officer of disease.

THE ARMY MEDICAL SERVICE.

MR. HARDY'S remark in the House of Commons lately, to the effect that medical officers attached to corps were *bonâ fide* officers of the regiments, has naturally called forth a good deal of criticism and comment, and there are some who think that they perceive in this declaration the first intimation of a return to the regimental system. The position of the War Minister seems to us an illogical one, and

without precedent; and the matter was very well put recently in a communication to the *Broad Arrow*. The word "attached" has always had a definite meaning in the army, and no officer, it was contended, who did not possess Her Majesty's commission in a corps, could, in any sense, be considered a *bonâ fide* member of it. If the medical officers really form part of the regiment, it is clear that the word "attached" is not only superfluous, but misleading; and they should, moreover, wear the uniform of the corps, in which case it would be perfectly right that they should on joining be subjected to a contribution of fifty days' pay to the band and mess, but not otherwise. We have always considered that regimental medical officers were deprived of their regimental appointments in a very arbitrary manner, but the thing having been done it should either be adhered to or not. It is this spirit of compromise which leads to that uncertain and ill-defined position of which medical officers complain so much. They do not know exactly what they are, or where they stand, and what they are all asking for is that the authorities would make up their minds for one thing or another; in other words, that they should be *bonâ fide* regimental officers and not attached, or attached to, but not *bonâ fide* officers of, regiments. The recess having terminated, and Dr. Lush having got a day fixed for moving his resolution in regard to the army medical service, we may confidently expect some declaration on the part of the Government regarding its intentions, and we hope that the measure may be framed on a satisfactory basis calculated to put an end to all the existing discontent.

VITAL STATISTICS AND THE MYSTERY OF FIGURES.

THERE are not a few persons who, in argument, have the strongest objection to deal with figures, and who, in extenuation of this objection, are always prepared with the assertion that anything may be proved by figures. This trite but thoroughly unsound dogmatism affords a convenient means of escape from a radical examination and discussion of a subject about which it is much easier to talk generally. Nothing is easier than to support unsound assertions by distorted or false figures, but only statements which are mathematically correct can be *proved* by figures. The science of statistics in a great measure owes its unpopularity, and the distrust of the public, to the inability of the uninitiated to weigh critically the value of figures, and to distinguish between those true and false; and also in some measure to the fact that many of those who write on statistics draw false conclusions from them, through the want of a sufficiently sound knowledge of the subject. Many who have read what has been lately written in different journals as to the loss of life in England and Wales through the cold of last winter might easily be led to cry out in despair, "Anything may indeed be proved by figures." In a recent annotation in these columns on "The Cost of a Hard Winter," we estimated that the excess of deaths caused by cold during the last six weeks of 1874 and during the months of February and March was about 35,000. In a leader in *The Times* on the 18th, the excess of deaths in the first quarter of this year alone was calculated at 67,000! whereas the *Standard* in a leader a day or two afterwards estimated the excess in the three months still higher—at 72,000! Lest the mysterious power of figures to "prove anything" should be debited with these vast discrepancies, and lead persons to place no credence in any figures, it may be useful to point out the pitfall into which the leader-writers of *The Times* and *Standard* fell in noticing the Registrar-General's last Quarterly Return. The death-rates used by the Registrar-General, and by almost all writers on vital statistics, are *annual* rates per 1000. Now the death-rate in the first quarter of this year in England exceeded the average rate by 3 per 1000, but as the excessive rate only lasted for the quarter of a year, the actual excess of deaths in the three months was not 3 in each 1000 of the estimated population of England and Wales, or 72,000 as the *Standard* stated, but only about a quarter of that number, say 18,000. *The Times'* estimate of the excess was framed on a slightly different basis, but was also stated at four times the correct number, through the same blunder of applying an annual excess rate to a quarter of the year without correction. Our own estimate, which was free from this error in calculation, took into account the excess of deaths from cold which occurred before, as well as after, Christmas, and the large number of 35,000 killed is sufficiently startling without any necessity for the inadvertent over-statements we have pointed out.

DRUNK OR DYING?

THIS question has of late years cropped up at frequent intervals *apropos* of the deaths of unfortunate drunkards in our police-cells, and during the past week it has occupied an unusual amount of public attention, and the public, led on by a coroner who should know better, seems inclined to take an unreasonable view of it. The public, however, should bear in mind that, unfortunately, to attend to drunkenness is one of the most constant duties of the resident officers of our hospitals, and, unfortunately again, it is only a few exceptional cases like those which have lately occurred (which serve the purpose of the daily press) of which any public record is made. While, therefore, every failure of the medical art in this direction is trumpeted throughout the length and breadth of the land, no mention is made of the tens of thousands of drunken cases which are beneficially treated in our hospitals.

Now we must at once admit that in all probability some of these mistakes are due to carelessness and inexperience, but we are safe from contradiction when we affirm that the number of such cases must be excessively few, and that in many of the so-called "fatal mistakes" nothing which can properly be called error has been made, and that in all justice nobody ought to be blamed for that which no human knowledge or foresight could have averted. In the first place it should be borne in mind that drunkenness may precede, and may very properly be regarded as the cause of, fatal apoplexy. An old habitual drunkard is sure to have the vessels of his brain in a deteriorated condition, and there is nothing surprising if after a debauch one of these vessels should give way. Indeed, there would seem to be some ground, *à priori*, for expecting that during the comatose condition which follows drunkenness such an event would be rather prone to occur. Apoplexy has long been recognised as the price which a drunkard often pays for his habits, and in these days of paternal governments it will occasionally happen that a drunkard will die in a police-cell instead of in his bed.

Again, it must be borne in mind that drunkenness may complicate other causes of insensibility, and may in some instances completely mask them. In such doubtful cases it might be urged that the patient should be admitted to the hospital until time should reveal his real condition. It must, however, be remembered that hospitals are not elastic, and that there are more than a sufficient number of cases of undoubted severity to fill all the available beds in London. If a house-surgeon fills up his last vacant bed with a case which is *probably* drunk but is *possibly* apoplectic—and this might be said of every middle-aged or old drunkard,—he might be compelled the next minute to refuse admission to a case which is *certainly* dying; and thus it will be seen that the judgment of the young men who fill these appointments is

likely to be sorely tried in such matters. Again, a drunken patient is a nuisance in a hospital, demands an enormous amount of attention from the nurses, and is an intolerable annoyance very often to the other patients.

With regard to those cases which are not drunk at all, but only supposed to be so, we would point out that the medical officers are in most cases misled by a false statement on the part of a policeman or a bystander as to the fact of drink, or else the breath has a powerfully alcoholic odour from a dose of spirits which has been administered by some kind but unwise Samaritan. Apart from this, however, there are a few cases of apoplexy of the "ingravescent" kind which, in the present state of our knowledge, are absolutely undiagnosable from drunkenness. Such cases are recorded by all writers on the subject, and all writers are agreed as to, we will not say the difficulty, but the impossibility of the diagnosis. It seems hard, therefore, that the blame, if blame there be, which properly belongs to the slow advance of medicine in certain directions, should fall on the heads of a few highly deserving young men who in no way merit it.

PURIFICATION OF THE CAM.

LAST Friday a special Congregation was held in the Senate House at Cambridge to consider the amended report of the Cam Purification Syndicate. The report proposed the reconstitution of the Cambridge Improvement Commission, and the institution of an Assessment Committee, to which the University should send representatives. The report was rejected by 29 votes, the *placets* being 17 to *non placets* 46. Mr. S. W. Cooper, of Trinity Hall, suggested that it was undesirable to reconstitute the Board of the Improvement Commissioners, and that one governing body, the Town Council, at which the University might be represented, should have charge of the sanitary affairs of the town. Mr. Cooper's suggestion is sensible, and, if the differences between the University and town were adjusted, it would no doubt be found to act fairly well. Under present circumstances, the jealousy that exists between the University and town would prevent any harmonious working for the common interest. It is now high time these differences were settled; they have been the means of delaying sanitary improvements for the last three years. The University is very unfairly treated by the town in this respect, considering that the existence of the town depends on the presence of the University, and having regard to the large rates paid by the colleges. Moreover the town authorities should remember that the colleges might, as Trinity has done, at any time adopt the system of earth-closets, or some other system of sewage removal, in which case the town would have far less claim on the University than it has at present. We have little hope that the two parties will of themselves arrive at a satisfactory settlement of the differences between them, and we would offer the suggestion that the questions in dispute should be submitted to arbitration. It is very certain the drainage question cannot be delayed much longer. Mr. Stephenson, the town surveyor, reported at the last meeting of the Cambridge Improvement Commissioners that two important sewers were choked up. In March, in making an inspection of certain houses in the town, we found it had become the habit to introduce small cesspools into the houses in order to prevent the solid matters passing into the drains lest a blockage should occur, and one experienced builder informed us that in some places the pressure is so great that he wondered the drains were not burst open. During the last ten years the buildings round Cambridge have enormously increased, and have, of course, proportionately enhanced the town revenues; these houses drain into the old main sewers, inadequate in the first instance for the requirements of the town, but now completely choked by the additional work thrown on them. Our readers no doubt are as tired of reading as we are of recording the proceedings of the Cambridge sanitary authority; still, considering the immense public interests at stake, we cannot abandon the subject till a complete measure of reform is effected.

CHEMICAL COMPOSITION OF THE SPERMATOZOA.

MM. MIESCHER and PICARD have lately published essays upon this subject. They examined the sperm of various animals, which they found to consist of an immense number of spermatozoa suspended in a weak saline fluid which only contained traces of alkali albuminate. The spermatozoa are precipitated by acetic acid, or by a one-half to one per cent. solution of calcium or barium chloride. Fresh sperm dried in vacuo contains 18·78 per cent. nitrogen, 11·31 phosphorus reckoned as phosphoric acid, and 0·278 to 0·28 sulphur. The proportion of phosphorus is higher than that of lecithin, the proportion of nitrogen lower than that of albumen, and that of the sulphur smaller than any tissue composed of cells. Of 100 parts of dried semen, 13·72 to 14·72 parts were soluble in ether, and 100 parts of the ether extract contained 52·46 of lecithin, the remainder consisting of cholesterin and fat. Spermatozoa exhausted by water, hot alcohol, and ether, successively yielded a compound formed by the combination of a base (protamin) with nuclein, the latter playing the part of an acid. The composition of protamin was found to be $C_9H_{20}N_5O_2(OH)$. This base is only found in the mature testis. The nuclein is obtained by treating the residue, after extraction by means of hydrochloric acid, with weak soda solution. It may be precipitated from this by means of alcohol; it is amorphous, colourless, and readily soluble in alkalies. It is not an albuminous compound. It has the formula $C_{29}H_{49}N_9P_3O_{22}$. The phosphorus is in the condition of phosphoric acid. The mean percentage composition of pure spermatozoa from the vas deferens was: nuclein 48·68, protamin 26·76, albumen 10·32, lecithin 7·47, cholesterin 2·24, fat 4·53. No protamin was present in the sperm of the frog, carp, and bull. The heads of the spermatozoa may be isolated by digestion in gastric juice, which dissolves the tails. The former were found to be chiefly composed of nuclein. Picard, repeating Miescher's experiments, corroborates most of them, but finds the salts of protamin non-crystallisable, those combinations which Miescher thought were crystallisable being compounds of guanin and sarkin.

DR. HARDWICKE.

DR. LANKESTER'S successor seems somewhat anxious to assume the character of Brutus, and is apparently determined that no favour shall be shown to his own profession. We would ask him to consider, however, whether some of the remarks which he is reported to have made at recent inquests have not in reality done injustice to those against whom they were directed, and whether, in the interests of the public, the coroner's court, and the profession to which Dr. Hardwicke belongs, such remarks had not for the future better remain unsaid. We print elsewhere a letter from one of the house-physicians to University College Hospital, whose conduct in a recent case was publicly called in question by the coroner, and we are bound to say that this gentleman's conduct, judged by his own explanation and by the account given of the inquest in the daily papers, seems to us not in any way deserving of blame, and that the coroner's remarks were not only unnecessarily harsh, but calculated to mislead the public, whom soberly to instruct is one of the coroner's duties.

The facts appear to be these:—A workman aged fifty-six

is found by the police in the middle of the day in a semi-conscious and silly condition on the pavement. He is taken to the hospital in a cab, where he is seen by our correspondent, who examined him most carefully. *There was no sign of paralysis;* the pupils were equal. He answered questions after a fashion, smelt of drink, *stated that he had had six glasses of whisky*, and revived after an emetic. A diagnosis of drunkenness was made, but the unfortunate man died in the course of the next day with symptoms of apoplexy. That the symptoms of apoplexy did not appear till shortly before death is evident from the fact that two other medical men, who saw the deceased subsequently to Mr. Houghton, attributed the symptoms to the same cause as that gentleman.

In summing up the coroner admitted that "there might be at times a difficulty in the diagnosis." It would have been more accurate if he had said that very often the correct diagnosis is impossible, especially in those cases in which, as in the one under consideration, the symptoms supervene gradually. What the coroner could mean by stating that "in his opinion the conduct of the medical officers of the hospital was simply atrocious," we are at a loss to conceive; for, to speak honestly, we cannot see to whom blame can in any fairness be attached. When a medical coroner uses such expressions towards members of his own profession, and when the warranty for such expressions is, as in the present case, very far from being evident, we think some explanation is due, and we know enough of Dr. Hardwicke's character to be sure that such explanation will be forthcoming.

THE PATHOLOGY OF PROGRESSIVE MUSCULAR ATROPHY.

A VALUABLE and interesting communication on this subject has been recently brought before the Société Anatomique of Paris, by Dr. Troisier. The patient was a male twenty-seven years of age, in whom loss of motor power, with atrophy of the muscles of the upper limbs, began fifteen months before death, the muscles of the right shoulder being first affected; the fatal termination was due to involvement of the intercostals and diaphragm. There was found simple atrophy, without loss of striation of many of the fibres of the latissimi, trapezii, rhomboids, complexus, and pectorals; together with an increased amount of interstitial tissue and fat. The atrophied fibres measured from 0·009 mm. to 0·004 mm, instead of from 0·025 mm. to 0·03 mm., the normal breadth. Both roots of the spinal accessory and the root of the hypoglossal nerve were atrophied, grey, and translucent; the microscope showing simple atrophy of their fibres with preservation of myeline. There was a similar change in the eight upper anterior spinal roots, most marked on the right side; the posterior roots being intact. Thickening and pigmentation of the pia mater were present in the upper part of the cord, from the medulla to the lower termination of the cervical enlargement. Examination of the spinal cord showed almost entire absence of the characteristic large-branched nerve-cells in the anterior cornua, a few atrophied cells still provided with processes alone remaining. All, however, possessed nuclei, some much pigmented. Scantily-granular masses represented those which had disappeared. These changes were more marked in the right than left side, and were limited almost entirely to the cervical region of the cord, but atrophied cells were met with in dorsal and lumbar regions to a small extent. The central canal was blocked by proliferated epithelium; no change in the spinal accessory or hypoglossal nuclei in the medulla; Clarke's columns, the posterior grey cornua, and the white substance were natural; the right circumflex nerve close to the entrance into the deltoid presented a number of medullated fibres half the size of others; the sympathetic trunk and ganglia were natural. Dr. Troisier pointed out that this was a good example of protopathic progressive muscular atrophy, and thought that the absence of proliferation of the neuroglia nuclei proved it to have arisen in a sub-inflammatory condition of the grey matter itself, the atrophy of the cells in the anterior cornua being the primary lesion, and the changes in the nerves secondary. Moreover, the change in the muscles was one of simple atrophy unaccompanied by the multiplication of nuclei of the sarcolemma, to which Hayem has drawn attention. Dr. Charcot remarked on the value of the case, of which this formed the fourth, as showing the relation between lesions of the anterior cornua and progressive muscular atrophy. More cases of muscular atrophy (deuteropathic) resulting from extension of lateral sclerosis to the anterior cornua were on record. He had never seen fatty degeneration of muscular fibres in progressive muscular atrophy, and believed that observers had frequently mistaken interstitial lipomatosis for such degeneration.

THE HIGH DEATH-RATE IN TIVERTON.

WHEN a small country town like Tiverton suffers from a death-rate of 45·3 per 1000, even during the quarter of a year, there is sufficient ground for supposing that its sanitary condition cannot be altogether satisfactory. The population of the borough of Tiverton, which is coextensive with the parish of that name, was 10,447 in 1861, and had declined to 10,024 in 1871, at which figure the present population of the borough may be estimated. During the year 1874 the deaths in the borough were 198, and equal to a death-rate of 19·8 per 1000. The deaths included 3 from measles, 3 from fever, and 11 from scarlatina (of which 7 occurred in the last quarter of the year), the zymotic rate being 1·7 per 1000. During 1874, therefore, Tiverton was fairly healthy, and the rate of infant mortality, measured by the proportion of deaths under one year to births, was as low as 104 per 1000, against 151 in the whole of England and Wales. The annual death-rate in the borough, however, during the ten years 1861–70 was too high—namely, 23·7 per 1000. In the first three months of this year it appears from the last Quarterly Return of the Registrar-General, that as many as 112 deaths were registered within the borough—equal, as above stated, to an annual rate of 45·3 per 1000; the deaths exceeded the births in the three months by 43, and included 14 from scarlatina, 4 from fever, and 1 each from diphtheria and diarrhœa. The zymotic death-rate in Tiverton was thus equal to 8·1 per 1000, against but 2·9 in the whole of England and Wales. With regard to the 14 deaths from scarlatina, 2 were registered in January, 6 in February, and 6 in March. The time has gone by when fatal epidemics can be simply described in coroners' language as "visitations of God." A thorough and independent investigation of the sanitary condition of Tiverton would undoubtedly prove that the death-rate of 45 per 1000 in the first quarter of this year was due to something more tangible than mere chance.

TREATMENT OF SEWAGE AT COVENTRY.

THE results of a costly experiment in sewage disposal was recently exhibited at Coventry to a large number of gentlemen from various parts of the kingdom, who had been invited by the directors of the General Sewage and Manure Company (Limited), under whose auspices the experiment has been carried out. These sewage works have been erected at a cost of £14,000, and the annual expense is estimated at between £4000 and £5000; they have been in operation, it is stated, since April 1874, and are situated on the banks of the river Sherburne, about a mile and a half below Coventry, whence the sewage is delivered by gravitation.

The sewage, after passing through a solid sewage extractor, is chemically treated, is allowed to subside in tanks, and is finally filtered through a bed of earth four acres and a half in extent, and five feet in depth. The effluent liquid, which is said to be perfectly clear and inoffensive, is allowed to run into the Sherburne. The precipitate, or mud which subsides in the tanks, is declared by Professor Voelcker to have a manurial value, when dried, of from 35*s.* to 40*s.* a ton. By a newly discovered process it is hoped so to "fortify" this subsidence as to increase its value to £6 or £7 a ton. This can of course be done, but will the cost of the fortifying material leave any profit? The experiment at Coventry appears successful in turning sewage into a harmless effluent, and if this result be permanent there is no necessity for being over-sanguine as to the manufacture of a marketable and profitable manure.

STATE MEDICINE EXAMINATION AT CAMBRIDGE.

THE University of Cambridge has now completed the regulations for the examination for a certificate in State Medicine, which is to take place in October next. A Syndicate has been appointed to make the arrangements, which includes the Vice-Chancellor of the University, the Master of St. Peter's College, the Professors of Law, Physic, Anatomy, Chemistry, the Downing Professor of Medicine, and other members of the Senate. Regulations have been issued and suggestions have been drawn up as some guide to candidates preparing for the examination. The Regius Professor of Physic (Dr. Paget), Dr. A. W. Barclay, of St. George's Hospital, London, Dr. Parkes, and the newly-elected Jacksonian Professor (Mr. J. Dewar), have been appointed examiners. We watch with much interest this effort on the part of the University to supply a long-felt deficiency, and heartily wish it that success which the excellence of the arrangements seems to merit. A better board of examiners, one more calculated to inspire confidence in the examination, could scarcely have been selected. The examination will be open to all registered practitioners, whether they be members of the University or not, and, to judge from the number of applications for information which we understand have been received respecting it, we may infer that there will be no lack of candidates. All applications with regard to the examination are to be addressed to Professor Liveing, Cambridge.

UNIVERSITY COLLEGE HOSPITAL.

AT this hospital Mr. Christopher Heath recently removed an enormously hypertrophied breast from a woman, and a sarcomatous tumour from the thigh of a man, both patients having been anæsthetised with a mixture of nitrous oxide gas and ether. Mr. Clover gave the anæsthetic in these cases, using his apparatus for administering laughing-gas with or without ether. The gas is contained in a liquid state in an iron bottle, and from this a small india-rubber bag is supplied by moving the screw-tap with the foot. When the patient has respired pure gas five or six times, a disc connected with the face-piece is turned, and by this means a way is opened to a tube leading to a vessel containing ether, which vessel communicates also with the india-rubber gas-bag. The disc is engraved to show how much of the respired gas passes back into the gas-bag directly, and how much passes through the ether vessel. The disc is moved gradually, to avoid making the patient cough or swallow by a too pungent admixture of ether. If the patient coughs or swallows, the disc is turned back; but it is rarely necessary to do this. When a sufficiently deep anæsthesia is produced, the disc may be turned to a point which admits fresh air with every inspiration, or the face-piece may be raised from the face every fifth or sixth respiration. There is much less bronchial irritation and less tracheal rhonchus than when ether is freely inhaled in the ordinary way, and the patients go to sleep with less signs of discomfort, and awake sooner from the state of intoxication afterwards. The darkness of the blood does not continue after the occasional admission of air, but is as striking during the first stage as when pure gas is given.

A MEDICAL STRIKE.

THE House of Commons should take warning from what is taking place in the canton of Glarus, according to the *Journal de Geneve*, as to what may happen in England if it much longer defers the passing of a Medical Act Amendment Bill, redressing the various grievances of the hard-worked and heavily taxed members of the medical profession. In this canton, out of twenty-three licensed medical practitioners, twenty-one declare that they will no longer perform any official duties until the medical examinations be once more entrusted to a committee of competent men, and the regulations be so modified as to allow of the use of an effective sanitary police. This last point shows how largely considerations of public advantage enter into the feelings of medical men. We are not admirers of strikes, least of all in the profession, but there is a limit to the patience even of medical men. They are obliged to pass through expensive ordeals of education and diaphoretic ordeals of examination, only to find quacks of all kinds publicly competing with them, using titles which cannot be distinguished from real ones, and even signing certificates of death to be accepted by registrars. Not only so: the public has an idea that a doctor is a sort of public hack, to be summoned at any time, night or day, and who is obliged to obey without any regard to the prospect of remuneration.

COMMITTAL OF A SURGEON FOR ALLEGED OBSTETRIC NEGLECT.

DR. WOOD, of Boston, has been committed to Lincoln Assizes by the county magistrates of Boston, for his treatment of the case of Mary Elizabeth White, who died of rupture of the uterus. Dr. Wood, on being fetched to the patient, found her suffering from hæmorrhage and very low, and thought it necessary to deliver her without delay. She seems to have borne the delivery well. Dr. Wood stayed ten minutes and left. She died in about three hours in a state of collapse, before he could be fetched again. It is not pretended by the prosecution, nor was it the opinion of the medical witnesses, that Dr. Wood was guilty of any undue violence or want of skill in delivery. Dr. Lowe, of Lincoln, to whom we are indebted for notes of the post-mortem, and of his evidence, which was entirely concurred in by Dr. Morris, of Spalding, who attended the post-mortem on behalf of Dr. Wood, agreed that though the rupture, in their opinion, happened during delivery, it might have happened to the most skilful and experienced practitioner. They only thought Dr. Wood at fault in not doing more for the patient after delivery. Undoubtedly it is to be regretted that he did not stay with the patient longer. From the evidence, he had not a suspicion of rupture having happened, or doubtless he would have done so, though evidently, from the nature of the case, the result would have been all the same. Admitting, however, that Dr. Wood was, perhaps, to blame in not ministering more diligently to the patient, who, he says, was in an exhausted state—which, however, he did not expect to end fatally,—it is a new idea that a doctor is to be sent to the assizes to be tried for manslaughter because he did not stay a certain number of minutes, or administer a certain amount of brandy. This is a doctrine at

once absurd and intolerable. If it is applied generally we shall be liable, in every case that terminates fatally, to a charge of manslaughter because we did not spend half an hour more in its treatment, or administer an additional ounce of brandy. We cannot believe that any grand jury will sanction such torture to a medical man. And we consider the judgment of the county magistrates rather the point to be tried at the Lincoln Assizes than the treatment of Dr. Wood.

NURSES' HOME AND TRAINING SCHOOL AT NEWCASTLE-UPON-TYNE.

THE importance of reliable and well-trained nurses is fully recognised, and the difficulty in obtaining them is often keenly felt. Every well-directed effort, therefore, to supply this want is fully deserving, not only of encouragement, but of substantial support from the public as well as the medical profession. The Nurses' Home and Training School at Newcastle-upon-Tyne appears during 1874 to have gained strength and stability, and is beginning to be recognised as one of the useful and popular institutions of the North of England. It is to be hoped that it is only yet in the infancy of its usefulness. The staff at the beginning of this year consisted of 10 trained nurses and 5 probationers, an increase of two in each grade since the beginning of the previous year. The number of cases nursed was 70 during 1874, exceeding by 10 the number in the preceding 18 months. The house occupied by the nurses was purchased during the past year, but the greater part of the purchase-money remains on mortgage. We notice from the report that the expenditure in 1874 exceeded the income by £260. This result is probably unavoidable in the early days of such an institution, but efforts should be made to restore this balance, or else the stability of the Nurses' Home will be endangered. The committee hope, with an increasing staff, to be able to render valuable assistance in nursing the poor. This is, however, a question of funds, which will probably not long be wanting, as the institution appears to have powerful local support.

TWINE HAMMOCKS FOR THE TRANSPORT OF INVALIDS.

WHEN the Ashantee campaign was going on we called attention to a simple and very portable form of hammock, which was capable of being turned to many accounts in the field. On the 20th inst. a girl, who had lately been under treatment in the Westminster Hospital for a severe burn, was conveyed by railway in one of Seydel's twine hammocks from Victoria station to Margate. The hammock was slung in a parcel van, its points of suspension being nine feet apart; and the patient was placed in it with her feet towards the engine, and was very safely and comfortably transported to her journey's end. The chaplain and one of the sisters accompanied the patient, who was in charge of Mr. Richard Davy; and they all concur in praising the hammock as a pleasant and easy means of transport, very well adapted for invalids undertaking a journey by rail.

WATER-SUPPLY IN MINING VILLAGES.

DR. MACLAGAN, the medical officer of health of the Hexham and Haltwhistle rural sanitary districts, in his report for 1874, calls especial attention to the deficiency of the water-supply in some of the colliery and mining villages within his district, at the same time stating that in his opinion there are no places in the district in which a sufficient supply of good water could not be obtained at a small outlay. The want of water, which is severely felt during summer, is principally due to the want of reservoir power. In the township of Wylam, with a population of a little less than 1000 persons, principally colliers, "there is really no water-supply at all—that used by the inhabitants being derived from the Tyne, which is perfectly unsuited for drinking purposes." What makes this case more remarkable is, that the pipes supplying water to Newcastle-upon-Tyne pass through the centre of the village, the obstinacy of one proprietor preventing a supply from this source being obtained. The colliery village of Mickley, with 1200 inhabitants, is said to have no water-supply at all in summer; water is also very deficient in the parish of Allendale, and especially in the village. The scarcity of water exists in many neighbourhoods in which the main roads are flooded with water which is allowed to run to waste for want of proper storage. In many parts of the district the water from impure wells is being used, and yet the sanitary authority is unable to close infected wells.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THERE are but two vacancies as councillors, not three, as stated last week, independent of the seventeen places of the outgoing councillors who seek re-election. In the list of candidates previously published we omitted the name of Dr. Mapother, who has held the professorship of Physiology since 1866, when he relinquished private teaching. The following is the corrected list of those seeking election who have not held the position during the year—viz., Messrs. Mapother, Jacob, Bennett, Corley, Kilgarriff, Ward, McDowell, Stoker, Wheeler and Fitzmaurice. The contest will be a very exciting one (on the first Monday in June), as twenty-seven candidates compete for nineteen places. We should add that Mr. Colles seeks re-election as secretary, and will be unopposed.

THE MANCHESTER PROVIDENT DISPENSARY SCHEME.

WE are glad to gather from a circular issued by the Weekly Board of the Royal Infirmary to the trustees and subscribers, and directing their attention to the Provident Dispensary movement, that this movement continues steadily to progress. The guarantee fund amounts to over £1000 a year; three dispensaries are in full work, and arrangements are completed for three more shortly to be opened. The Board urges on the subscribers that the time has fully come for thoroughly and completely carrying out a careful investigation of the circumstances of patients applying for relief. The Council of the Association of the Provident Dispensaries undertakes to do this, and the Board promises that it shall be done without haste or harshness. We hope sincerely that the subscribers will assent, though it would be well if they were represented in the investigating body. The investigation is the turning point of this movement, and it should be accomplished with every guarantee of attention to two points not really antagonistic—it should be carried out scientifically and yet tenderly, and the result would be of great social, sanitary, and medical interest.

GUY'S HOSPITAL.

SOME recent changes worthy of a passing notice have occurred at Guy's. By the retirement of Mr. John Birkett a vacancy was made in the Lectureship on Surgery, which after some delay, was filled by Mr. Bryant. This appointment was speedily followed by the resignation of Mr. Cooper Forster, the senior lecturer, who was then succeeded by Mr. Durham, so that the lecturers on Surgery now are Mr. Bryant and Mr. Durham. We congratulate Mr. Bryant on this turn of affairs, as we believe the appointment has been secured to him only by the voluntary action of his colleagues. Mr. Davies Colley is now associated with Mr. Howse as Lecturer on Anatomy.

DISCUSSION ON PUERPERAL FEVER.

WE understand that at the next meeting of the Obstetrical Society, which will be held on Wednesday next, June 2nd, Dr. Arthur Farre will enrich the discussion on the Relation of Puerperal Fever to the Infective Diseases and Pyæmia by some remarks. It is expected that there will be a large gathering of Fellows and visitors.

THE cultivation of chinchona in Jamaica, in spite of adverse influences to which we have before now alluded, promises to be successful. Several hundred acres of land are now entirely devoted to the rearing of the plant, and we have no doubt but that in a few years the island will supply the European market with a large quantity of good bark. Efforts are also made to reproduce jalap, and this year a crop of three or four hundred pounds has rewarded the industry of the growers. Tobacco may now be considered one of the staple products of Jamaica, and it is affirmed that the cigars manufactured there compare favourably with some of the best Cubans.

THE inhabitants of the City proper do not appear very eager to avail themselves of the protection and facilities of testing articles afforded by the Adulteration Act. Since Dr. Sedgwick Saunders's appointment as analyst in June last only three samples of food have been submitted to him, with the requisite formalities, for analysis; each, however, was found to be free from adulteration. Officially, seventy-two analyses and microscopical examinations were made by Dr. Saunders in the period. As it was not thought necessary to institute legal proceedings against anyone, it may be inferred that the Act is doing much good in the City.

A CORRESPONDENT of *The Times* states that an epidemic of small-pox of a most malignant type has been desolating the town of Athenry, in Ireland. The greatest mortality hitherto has been among the very young. The letter is written in a most sensational and alarmist style, and describes a condition which, in the absence of corroboration from Irish papers, is very difficult to believe. We hope the version is an exaggerated one; if not great blame must attach to the local authorities for suppressing or hiding the fact of the outbreak.

THE city of Peshawur is suffering severely from small-pox, and in many districts of the Punjab the disease is prevalent and fatal. In Gurgaon especially the mortality from this cause is very high. Gurgaon is remarkable for having a temple to Sitla, the goddess of small-pox, to whose shrine an immense number of pilgrims resort every year, and the people of this locality oppose the introduction of vaccination with a fanaticism worthy the emulation of the enlightened representatives of the taxpayers of Keighley.

Fleet-surgeon Dr. William Fasken, R.N., lately senior medical officer in charge of Portsmouth Dockyard, was, at the expiration of the period of his appointment, presented by the officers and *employés* of the yard with two handsome testimonials. One piece of plate bore the following inscription:—"A tribute of esteem to Staff-surgeon William Fasken, M.D., from the officers and men of the Portsmouth Dockyard division of Metropolitan Police."

DURING the year 1874, 141,411 births and 92,352 deaths were registered in Ireland. Of the latter, 12,473 are stated to have occurred from zymotic diseases, the most fatal of which was scarlet fever. There were 2707 inquests reported to the registrars. The tide of emigration from Ireland shows no signs of subsiding, 73,184 persons having gone abroad in the year.

THE committee of the Westminster Training School for Nurses is, it appears, desirous of carrying out its original plan of not only supplying a staff of efficient nurses for the hospital, but of training probationers to meet as far as possible the demand for superior attendants in cases of sickness in private families. To aid so praiseworthy an effort, Madame Christine Nilsson, who some time back gave a concert from which £900 was derived for the benefit of the school, has, it is stated, offered to repeat her generous act by giving a concert at St. James's Hall on June 23rd.

IN London 1322 deaths were registered last week, including 2 from small-pox, 23 from measles, 31 from scarlet fever, 14 from diphtheria, 91 from whooping-cough, 25 from different kinds of fever, 15 from diarrhœa, and 244 referred to diseases of the respiratory organs. Different forms of violence caused 61 deaths. On the 22nd the Asylum District Fever and Small-pox Hospitals at Homerton and Stockwell contained 171 patients, 92 of whom were under treatment for scarlet fever, and 12 for small-pox.

WE are glad to state that the directors of the Great Western Railway Company have voted a sum of £250 to the Radcliffe Infirmary, Oxford, and a further sum of £150 for distribution among the permanent staff of the institution, in recognition of the attention and care given to the sufferers by the disastrous railway accident at Shipton, a large portion of whom were conveyed to the Radcliffe Infirmary. The accident, which occurred during the Christmas week last, must be fresh in the memory of our readers.

ZYMOTIC diseases appear to have prevailed rather extensively in Golcar during the first quarter of the present year, according to the report of the medical officer of health for the Colne Valley. The mortality of the period is computed at 35·1 per 1000—a death-rate which should serve to quicken the energies of the authorities in discovering, and, as far as possible, abolishing sources of preventable disease.

THE Italian Government has recently made Dr. Tilt a Knight of the Crown of Italy. This is a gracious way of recognising the advantage that must accrue to Italian medicine from the translation into Italian of our standard works of medicine. Dr. Rey, of Rome, has lately translated two of Dr. Tilt's works, his Handbook of Uterine Therapeutics, and his work on the Change of Life.

SMALL-POX is now so prevalent in the county of Galway, Ireland, that the annual drill and training of the Militia has been postponed *sine die*. It is very probable that the regiment will not assemble until next year. The care evinced by the Government in this matter is most praiseworthy.

NOTICE has been given in the House of Commons of an intention to call the attention of the Government to the condition of the various police-cells of the metropolis. It is generally supposed that many of these are sadly deficient in point of cleanliness and in ventilating arrangements.

IT is intended shortly to legislate against the administration of poisonous drugs and compounds to horses and other animals, and a Bill will be introduced to Parliament by Sir J. Astley, which we have no doubt will be heartily welcomed by lovers of horses and sportsmen.

PROFESSOR HUMPHRY, of the University of Cambridge, gives notice that there will be classes for instruction in Human and Comparative Osteology and in Practical Histology during July and August, commencing on July 1st.

SANITARY NOTES AND REPORTS.

DR. CHARLES KELLY, medical officer of health for the combined districts of West Sussex, has just issued his first annual report, which in many ways commends itself to the favourable consideration of sanitarians. Dr. Kelly has imported, without any sort of effort, into his new line of work that perspicuity and clearness of description for which he was justly celebrated in his duties at King's College Hospital. It is, indeed, this special quality that makes the report before us valuable, and so we commend it to the attention of all lay readers who wish to possess and maintain healthy homes. The author, in a very brief chapter, tells his readers that "the best disinfectants are the ancient elements—earth, air, fire, and water," and explains the reason why. It appears that Petworth is about the only town in the district badly supplied with water, but a few simple directions, indicating the plan to be adopted in maintaining an unpolluted supply, are given. In the chapter on drains and sewers, the merits of the three methods by which excreta can be satisfactorily removed are canvassed, and some useful hints are given as to the arrangement of house-drains in connexion with the inroads of sewer-gas. In noticing this first report by Dr. Kelly, we have preferred to generalise and to remind men in the same line of work how much the promotion and practice of sanitary science may be advanced by a plain statement of facts and principles unclothed in technical phraseology, and so within the compass of any fairly educated man.

Dr. W. Armistead, medical officer of health for the districts of Saffron Walden, Newmarket, Risbridge, Dunmow, and Linton, in submitting his first report, divides its contents as regards each district into six parts—viz., (1) general work; (2) tabular statements of mortality; (3) action taken for the prevention of disease; (4) legal proceedings under the Sanitary Acts; (5) supervision for sanitary purposes; and (6) legal action taken with reference to offensive trades, bakehouses, and workshops, prepared (as the writer states) in accordance with Sect. 14 of the Order of the Local Government Board regulating the duties of medical officers of health. We do not specially admire the classification, and Dr. Armistead appears to be the only officer up to the present time who has thought it worthy of recognition. The report gives a very good *résumé* of the sanitary work done in each district, and is so arranged that each local board may read, mark, learn, and inwardly digest the matter relating to their own district only, ignoring all the rest if it seem good to them to do so. The outbreak of small-pox at Newmarket (a full account of which appeared in THE LANCET of August 8th last) occupies, of course, a conspicuous place, and the active and successful steps taken to stamp out the epidemic and to prosecute the offenders reflect great credit on Dr. Armistead and all others concerned.

"The Advantages of the Separate System of Drainage" is the title of a small but somewhat bombastic pamphlet by Mr. Edward Monson, C.E., in which the respective merits of the combined and separate systems are duly canvassed. In remarking, parenthetically, on the number of men who, each and all, claim to be the inventors of the plan by which rainfall and sewage are kept distinct, we take it to be now an established fact that the separate should always be chosen in preference to the combined systems in all places of moderate size. And the author of this pamphlet is doubtless correct in recording that, as to disposal of excreta, the watercloset system, under most circumstances, is far in advance of any other method that has yet been introduced.

In thus briefly summarising these reports, which contain a vast amount of valuable material, we have once again to remark how much, to the large number of men labouring at sanitary work, their value is diminished by want of uniformity in the compilation. And here for the hundredth time crops up the seed that Mr. Stansfeld has sown. The medical officers of health throughout the country have been instructed to acknowledge no professional help from head quarters; the General Order of the Local Government Board as to medical officers of health is sufficiently indefinite to encourage everyone concerned to do that which is right in his own eyes. So that at the present time we have as many styles of report as there are men to compile them, and the result is a most deplorable waste of good material of which the country, in return for the large expenditure incurred, should by this time have begun to reap the benefit.

STATE MEDICINE.

THE second of the course of lectures on State Medicine was delivered before the Society of Apothecaries at their hall in Blackfriars on Saturday last by Surgeon-Major De Chaumont. A numerous attendance of representatives of the several branches of the profession was present, including many members of the Naval, Military, and Indian Medical Services.

The subject of this lecture was Air and Ventilation. Air was represented as the most constant and general agent in the production of disease. Food and drink may be suspended for a while, but we are bound to breathe the air as we find it under pain of death itself. If, therefore, we find a community suffering from general deterioration of health, with a constantly high death-rate, we may safely ascribe this condition to the bad state of the atmosphere breathed. A sudden outbreak of disease is, on the other hand, more likely to have its origin in the condition of the water-supply. The normal composition of air having been given, it was remarked how uniform the atmosphere was found to be in different parts of the globe, even in the neighbourhood of densely peopled towns; the law of diffusion and the effect of the winds being sufficient to effect the distribution of the products of combustion and respiration when nature is not obstructed by the ignorance and selfishness of man. Calculating the enormous column of carbonic acid evolved in London alone, it appears how constant and powerful must be the varying currents of the air to produce diffusion of so vast a mass. The average amount of carbonic acid in a normal air may be about 0·4 in 1000 volumes, but the mere addition of this gas in a pure state is not attended by poisonous symptoms till a considerable addition has been made, as much as 3 per cent. or even more being tolerated under certain circumstances. The causes which induce deterioration of the air may be divided as follows:—1st, respiration and transpiration; 2nd, combustion; 3rd, sewage emanations; and 4th, gases and suspended matter given off by trades and manufactures. The most important of these agents is undoubtedly respiration, including transpiration. Generally speaking, special outlets are provided for the products of combustion, but respiration is continually going on, and evolving noxious matter into our breathing space, while the last thing that most people think of is the provision of an inlet for fresh air, or an outlet for foul air.

The changes induced by respiration are—1st, oxygen greatly diminished; 2nd, carbonic acid largely increased; 3rd, a large amount of watery vapour given off, with a considerable amount of ammonia and organic matter, either in a state of vapour or suspended. This oxygen is diminished in the direct ratio of the consumption of carbon and hydrogen in the system, and may be reckoned theoretically or deduced from actual experiment, which latter was quoted from authority.

The amount of organic matter has been variously estimated: that it is albuminoid and nitrogenous is certain, being demonstrated by analysis. The organic impurities consist of certain cellular bodies, which have been called putrefaction cells. They in all probability belong to the lowest forms of vegetable organisms, perhaps the starting-point of the bacteria; other organic impurities are, chiefly, fungoid spores or pollen grains. (A diagram was exhibited containing magnified representations of many of these organisms, some of which were seen to be in a state of active development.)

The evil effects of re-breathing air have been long recognised, but so slow are the people to take in such truths that the dwellings of the present day are comparatively little better than they were thirty years ago. Dr. Neil Arnott pointed this out as the cause of death among the monkeys in the Zoological Gardens, five-sixths of whom died in one month. In the monkey-house there was only one outlet near the roof, and one inlet near the floor; and this is yet the condition of human dwellings, or even worse. The doors and windows of the houses of the poor are so defective that they become sufficiently ventilated, while theatres, ball-rooms, and apartments even in the best houses are frequently stuffy and unwholesome. It is thus legitimate to connect defective ventilation with the diseases which are the chief causes of mortality. In the thirty-fifth report of the Registrar-General, Dr. Farr gave a table showing diseases causing death in the order of their frequency. By this table the following results are shown:—Out of 1000 persons who die, phthisis kills 108, bronchitis 87, atrophy and debility 61, old age 55, heart disease 53, convulsions 52, diarrhœa 45, pneumonia 41, small-pox 39, violence of all kinds (whether accidental or intentional) 39, whooping-cough 28.

In a truly hygienic community the greatest cause of death ought to be old age, and, perhaps, next to that accidents; but here we have old age occupying only the fourth place, whilst violence occupies the tenth place. Phthisis, bronchitis, and pneumonia alone make up 237 per 1000, or nearly one-fourth of the total mortality, which, if we add to this heart disease, atrophy, debility, and convulsions, which we have good reason to believe are all due in a great measure to overcrowding, we have in these diseases the cause of rather more than four-tenths of the total mortality. Diagrams were exhibited showing the relation of crowding and death-rates in districts containing between 80,000 and 120,000 inhabitants, making manifest the fact that the mere aggregation of human beings together is in itself a source of disease. The tendency of the aggregation of the agricultural population into towns makes this matter one of great importance to the State. To take the condition of the outer air as the standard of the purity of the air in dwellings would be unwise, but it may be suggested that a good and sufficient ventilation is one that shall present to the sense of smell no marked difference from that of the outer air.

Some details were given as to the quantity of air required in an initial state of 1000 cubic feet per head. It would probably be necessary to supply 3000 cubic feet per hour, and in rooms where persons are in active work more would be required. No hospital should have less than 4000 cubic feet per head per hour, and in some cases the supply should be unlimited. As to the ventilation of buildings, the means may be regarded as natural or artificial; by far the greater part is effected by natural means, the law of gravity causing the warmer air to be displaced by the colder or heavier air—this being, in fact, the cause of all the air movements in our atmosphere. Details were entered into as to the numerous plans which have been devised for artificial ventilation, and were illustrated by drawings showing the mode adopted in various public buildings, as the Houses of Parliament, Pentonville Prison, and the Victoria Hospital. Remarks were added as to the principles which should guide legislation in the distribution and construction of dwellings. An experiment was made by which it was shown that, although the windows were open on both sides of the hall, the carbonic acid present in the air amounted to nearly two volumes in 1000.

Correspondence.

"Audi alteram partem."

VENTILATION.

To the Editor of THE LANCET.

SIR,—It must be acknowledged that a cheap and efficient mode of ventilating the wards of our metropolitan hospitals is still a desideratum. The question is not so much what is the most scientific and perfect mode of doing this, as how efficiency may be combined with economy.

Many of the plans hitherto adopted have failed. At the York-road Lying-in Hospital a central shaft was erected at great expense, which communicated with the wards by means of flues. At the bottom of the shaft a large fire was always kept, and the current of air thus produced drew the air out of the wards by means of the communicating flues. The air thus displaced was supplied from the doors and windows, a *horizontal* draught was thus created, to which the patients and nurses very much objected, and the flues soon got stopped up by the first material at hand.

When the new Lock Hospital was built it was proposed to admit the fresh air from above. A number of accurately-balanced flaps were placed round the top of each ward, through which the air from without was to pass as a corresponding quantity of vitiated air passed up the chimney. The air never went in the direction indicated, for the obvious reason that rarefied air in the ward tended to escape by the openings through which it was intended to enter. The *vertical downward* current here failed.

At St. George's Hospital many years ago an attempt was made to ventilate the wards with *warm air*. A large sum of money was expended in making a shaft in contact with each chimney leading from a ward. It was supposed that as the air went up the chimney it would be replaced by the air from the shaft, and that this would be heated in its downward course. Had any ward been hermetically closed this no doubt would have been the case. But practically again the air was obstinate, and would not obey its directions. Chimney and shaft alike took the rarefied air from the ward. It is no doubt possible to supply a ward with warm air, but the process is necessarily expensive, and the warming apparatus is liable to get out of order.

The plan of supplying wards with fresh air by the *horizontal draught*, by the *downward vertical draught*, and by *heated air*, having *practically* failed, it is only reasonable that we should give a fair trial to the plan of introducing fresh air from below, and directing it by short tubes upward, so that it must circulate through the ward before it reaches the patients.

In the Bristol Infirmary, if I recollect rightly, the windows reach to the ceiling; and in the daytime, and in summer, when the upper sash is drawn down, the ventilation is all that can be desired; but at night, or in cold weather, something more is required. At present most of our wards are ventilated from the passages, which contain the emanations from other wards during the day, and at night, in addition, the products of the gas-burners, which are generally kept turned on to the full.

I am, Sir, your obedient servant,

Savile-row, May 24th, 1875. HENRY LEE.

To the Editor of THE LANCET.

SIR,—Whilst the question of ventilation is attracting some serious attention in official circles, and several new modes, more or less elaborate, are undergoing experiment, it may not be uninteresting to some of your readers to hear

of the following simple and inexpensive mode of window-ventilation which has occurred to my mind as an improvement upon similar plans.

The centre pane of the top sash of a window is fitted with double panes of glass, one attached to the outer margin of the frame and the other to the inner, leaving an interval of about an inch between. The outer pane is deficient for the last inch at the bottom, and the inner pane for an inch at the top, thus allowing a current of air to enter at the bottom of the outside pane, pass upwards between the two, and enter the room in a vertical direction, causing no draught, but maintaining a constant supply of fresh air, which can, of course, be increased or diminished to any extent, in proportion to the number of panes thus treated.

I remain, Sir, your obedient servant,

Norwich, May 26th, 1875. EDWARD S. COPEMAN.

To the Editor of THE LANCET.

SIR,—The plan of admitting ascending currents of air by the window-sash is in my house recommended by three or four years' experience. It effects the purpose of furnishing fresh but cold air *without draughts*. It is, I think, satisfactory to see so valuable a contrivance brought prominently forward; but it is by no means new. The following simple method occurred to me several years ago, when seeking to obviate the effect in my children's nursery of their attendant's preference for closed windows. A carpenter was employed to cut openings in the lowest rail of the upper sash. These apertures had the advantage of being nearly invisible, and the previous closeness of the atmosphere was effectually prevented. The same plan has been for two years or more in operation in my waiting-room, with a similar good result. In very cold weather an ordinary window sand-bag is used to cover the openings.

The principle is, I think, susceptible of various simple applications. In offices or public rooms with an entrance lobby projecting into the room, wide openings for ventilation can be made in the roof of the lobby, the outer door being left open.

I am, Sir, your obedient servant,

May 25th, 1875. W. WILBERFORCE SMITH.

CROUP AND DIPHTHERIA.

To the Editor of THE LANCET.

SIR,—If I had been present at the meeting of the West Kent Medico-Chirurgical Society when Dr. Carr's paper was read, I should have asked the following questions:—

1. Is it not probable that Dr. Carr's cases of so-called inflammatory croup with false membrane, which he admits "are now rarely seen," were in fact cases of diphtheria occurring before he had learnt to recognise that disease?

2. Is Dr. Carr right in making a distinction between spasmodic croup, as he defines it, and laryngismus stridulus?

3. Why, in his reference to the various forms of croup, does he omit to mention that very common disease, acute catarrhal laryngitis, or simple inflammatory non-membranous croup—the stridulous laryngitis, or false croup, of Trousseau and other French pathologists?

4. Lastly, with reference to diphtheria, is the accession of the disease *always* "marked by great prostration of the vital powers"? and is it right and safe to deny its infectious nature? If Dr. Carr has met with no example of diphtheria communicated by infection in his own practice, do not the authentic records of medicine afford abundant proofs of its dangerously infectious character?

I am, Sir, your obedient servant,

Savile-row, May 17th, 1875. GEORGE JOHNSON.

To the Editor of THE LANCET.

SIR,—May I be permitted to say, in answer to Dr. Newman, that I never for a moment meant to suggest that diphtheria was only a disease of towns. I have seen too many outbreaks of it in the most rural of parishes to make any such assertion. What I suggested was that what I should call true membranous croup without diphtheria might probably be more frequently met with in the country than in towns. At all events I myself have not unfrequently met with cases of membranous croup without being able to trace any diphtheritic origin. There is one point on which I think Dr. Johnson and those who agree with him are bound to enlighten their followers, and that is how to treat those cases of acute laryngitis where the presence of membrane is suspected? There are few practitioners, I imagine, who possess the requisite skill with the laryngoscope to recognise membrane in the larynx in young children. Must we in all such cases abandon the old and orthodox treatment by emetics, antimony, &c., and administer steel and port wine for fear of having to deal with a case of diphtheritic origin? or are we to do as an accomplished physician told me a short time ago—namely, give salines, apply steam inhalations, and wait till tracheotomy is indicated? For myself I am still old-fashioned enough to believe in the antimonial treatment of acute laryngeal affections not of diphtheritic origin, and shall not easily be persuaded to abandon it.

If the pathology of croup has been so completely cleared up by Dr. Johnson and those who think with him, has not an equally important subject, the treatment of these acute laryngeal affections, been rendered more difficult and obscure than ever?

I am, Sir, yours, &c.,

Reigate, May 17th, 1875. J. WALTERS, M.B.

POST-MORTEM EXAMINATIONS.

To the Editor of THE LANCET.

SIR,—I am very sorry that I did not happen to see a letter with the above heading in THE LANCET for the 8th of May, in time to reply in the following number.

Your correspondent "Jurist" has asked me a very important question with reference to a case of homicide by throttling, which I communicated to your journal of the 1st current; and I wish to express my thanks to him for giving me an opportunity of confirming the accuracy of my observation.

In making the post-mortem examination the following was the order observed:—The thorax was opened first, then the abdomen, and, finally, the head. On removing the sternum the pericardium was opened before the organs were disturbed, and the heart was separated by grasping the roots of the great vessels, and carefully cutting through them above the fingers. After the heart had been examined (the right cavities being opened first on account of their greater interest), the larynx, trachea, and lungs were removed bodily. I do not therefore see how any fallacy could creep into my account of the condition of the heart's cavities from the method of performing the examination. I may also add that the facts need not rest upon my unsupported testimony, for my friend, Dr. Dreschfeld, Lecturer on Pathology at the Owens College School of Medicine, assisted me throughout, and is fully prepared to endorse my statements.

The emptiness of the right cavities of the heart, though unusual in death from asphyxia, is not by any means unknown. For instance, in Taylor's Principles and Practice of Medical Jurisprudence (2nd edit., 1873, vol. ii., p. 13), the author says: "The facts and observations accumulated by my friend Dr. Norman Chevers, of the Calcutta Medical Board, show that a full condition of the heart, although a common, is not an invariable concomitant of asphyxia, either from drowning or any other cause (Medical Jurisprudence for India, 1856, p. 441). It has been elsewhere remarked, that the action of the heart continues after the stoppage of respiration, and that the period at which this organ ceases to contract is variable. Hence, in some cases, there may be sufficient power in the right cavities to contract upon their contents, and to expel, more or less completely, the last traces of blood received by them from the body." Again, at page 62, Dr. Taylor makes this distinct assertion with regard to the internal post-mortem appearances in death by strangulation:—"The heart presents no uniform condition; it is sometimes quite empty, and at others it contains dark fluid blood."

This quotation is sufficient to show that emptiness of the right side of the heart is occasionally met with in death from asphyxia. The very large amount of blood found extravasated into the substance of both lungs seems to me

strongly to confirm the suggestion which Dr. Taylor offers as to the mode of occurrence of this exceptional condition of the right cavities—a suggestion which, on general grounds, appears also to be the most natural one.

I remain, Sir, yours very truly,

Manchester, May 14th, 1875. CHARLES J. CULLINGWORTH.

DRUNK OR DYING?

To the Editor of THE LANCET.

SIR,—As the following case has been brought prominently before the public, and as it has been somewhat misrepresented, I trust that you will find space in your paper to insert these explanatory remarks.

On Monday, the 10th inst., at 2.15 P.M., a man was brought to the hospital by the police. They had found him lying in the Hampstead-road. When I saw him he was sitting on a couch in the casualty-room, leaning on one arm. He was breathing quietly, without stertor. There was no duskiness of the face. The pupils were equal and of average size; the arcus senilis was well marked. The arteries were rigid. The pulse was moderately strong. The breath smelt of spirits. The man was drowsy, but answered questions when spoken to rather loudly; there was no thickness of speech. He gave his name, and said he had been drinking whisky. There was no paralysis. I was told by the police that some brandy had been given him. As I could find no evidence of disease, and as the man had been drinking, I gave him a mustard emetic, and he swallowed this without difficulty. As this did not act at the end of five minutes, I went away to get some ipecacuanha wine. On my return I found him standing, partially supported, and vomiting, without any undue straining. Patient seemed clearer after this; he could stand and walk with slight assistance, and he answered questions. There being no apparent disease, I directed the police to take charge of him, and he walked out of the hospital with them. The next morning I heard that he had been readmitted with well-marked signs of apoplexy.

Further evidence transpired at the inquest to show that the patient could not have had much to drink.

The above is a plain description of the treatment which Dr. Hardwicke was pleased to denominate "simply atrocious" and "almost criminal." He further remarked that emetics were not the proper treatment for drunkenness, and considered rest in bed, with careful watching, to be the proper procedure in such cases. Being dissatisfied with the medical evidence, Dr. Hardwicke had the hall-porter sworn, and allowed members of the jury to question him on the diagnosis of disease from the effects of drink; this it was that led to the "disgracefully unbecoming levity of the medical students" referred to in the papers. In conclusion, I beg to point out to you that the patient was seen late in the evening by two medical men, and that even then they did not consider the man to be suffering from apoplexy.

I am, Sir, yours obediently,

WALTER B. HOUGHTON, M.B., B.S. Lond., &c.,
Senior House-Physician.

University College Hospital, May 22nd, 1875.

BIRMINGHAM.

(From our own Correspondent.)

THE quarterly report on the health of the borough for the quarter ending April 3rd, 1875, has just been issued by Dr. Hill, the medical officer of health, and it shows that the death-rate has been 31·97, as against 24·74 and 28·24 in the corresponding quarters of 1873 and 1874 respectively. This marked increase is not, however, due to the influence of zymotic diseases, but to the greater fatality attending diseases of the lungs, caused by the cold weather and east winds which prevailed during the past quarter. Infants and persons of advanced years have, as usual, been the greatest sufferers from these diseases. Small-pox caused 85 and scarlatina 93 deaths, a smaller number than we have had from either disease for a long time. Whooping-cough, on the contrary, has been most fatal, producing 214 deaths, against 63 in the first quarter of last year. It appears that of about 70,000 houses in the borough, there are 20,000 whose windows cannot be opened at the top so as to admit of air; that 24,000 still have no water-supply but what is derived from surface wells, and that 101 have no water-supply of any kind.

The new staff of sanitary inspectors were lately harangued by the Mayor on the best way of carrying on their duties, and his remarks were well worthy of attention. Much will depend on the way these men carry out their instructions: if too severe they will raise a storm of opposition; while, if too lax in enforcing the removal of nuisances or the cleansing of foul courts and houses, &c., they will be of very little sanitary benefit to the town. The great enemy they have to fight against is ignorance on the part of small landlords, and equally of tenants of poor properties. The penny sanitary lectures now being given in the various wards of the town by medical men and others interested in public health will, in course of time, teach the working classes how to preserve and make happy their own lives and those of their children. When we find that 939 filthy houses, and 401 houses in which contagious diseases had existed, during this quarter have been reported and inspected, we see that there is ample room for systematic and well-organised work on the part of the sanitary committee of the corporation and of their inspectors.

The committee appointed to frame the bye-laws of the new Medical Institute have finished their labours, and general surprise is felt that the chairman, Dr. Bell Fletcher, does not call the members together to receive the report and to appoint a fresh committee.

The proposed sewage works at Yardley, to which allusion has before been made, are not to be carried out as suggested by Mr. Pritchard, C.E., and approved by the Local Sanitary Authority, in consequence of the Local Government Board declining to accede to the grant of a loan of £45,000. The cost is thought to be too great in proportion to the population of the district, and a portion only of the plan, affecting the more densely inhabited parts of it, will first be dealt with. Handsworth and Aston, two other suburban parishes adjoining Birmingham, have agreed to submit a joint scheme for the sewerage of the respective districts to arbitrators, or, in default, to the Local Government Board.

At the Queen's Hospital Dr. Mackey has now under his care three cases which well illustrate the beneficial effects of aspiration in the treatment of effusions into the pleural cavity. In two of the cases thirty ounces were removed at one time by the aspirator for subacute pleuritis. The third case is that of a young man who has been aspirated twice for empyema, and who has since been treated with a drainage-tube in a single opening. At one time severe pyæmic symptoms showed themselves, but they subsided after disinfecting injections and the internal administration of hyposulphite of lime. These patients have all done well.

The Wednesbury Local Board, on receiving the annual report of their medical officer (Mr. Garman), paid him a well-merited compliment, but one that is too seldom rendered by such bodies, in according him "their best thanks for his care and efficiency." The death-rate has been 22¼ per 1000, but one notices with regret that not less than thirteen deaths have taken place from puerperal fever. Can this be accounted for?

The medical profession will be glad to hear that Dr. Wade has recovered from his recent severe illness, and has resumed his duties.

Birmingham, May 22nd, 1875.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the required examinations for the diploma, were duly admitted Members of the College at a meeting of the Court of Examiners on the 20th inst.:—

Bevan, Adolphus, Peckham.
Cotton, Herbert, L.S.A., Ipswich.
Dixon, Thomas Arthur, Upleatham, Yorks.
Evans, David Thomas, L.S.A., Carmarthen.
Fisher, Stephen Henry, Tiverton.
Garlike, James Percie, Tulse-hill.
Hemming, William Douglas, Notting-hill.
Hitchings, Thomas John, Plymouth.
Hutchinson, Walter, Leominster.
Kelly, Augustin Bernard, Camden-road.

Massiah, Benjamin Jones, Clifton.
Matthews, Charles Edwin, Bristol.
Murrell, William, L.S.A., York-street.
Palmer, Thomas Hurlston, Warwick.
Prince, James Perrot, Boston, United States.
Sibbald, Thomas Martyn, Ontario, Canada.
Voelcker, George Henry, Kensington.
Williams, Austin Edward, L.K.Q.C.P. Irel., Liverpool.
Young, Edward William, Henley-on-Thames.

Of the 78 candidates examined during last week, 21 failed to satisfy the Court of Examiners, and were referred for six months' further professional study.

The following gentlemen passed the first part of the professional examination for the Fellowship at meetings of the Court of Examiners on the 25th and 26th inst.:—

N. C. Macnamara, King's College; G. Griffith, Liverpool and University College; F. R. Fisher, E. L. Robinson, and L. E. K. Shuttleworth, St. George's Hospital; B. May, Birmingham and Edinburgh; H. H. Clutton, Cambridge and St. Thomas's Hospital; L. H. Stevenson, Guy's Hospital; F. S. Eve, St. Bartholomew's Hospital; R. Atkinson, London Hospital; H. J. M. C. Todd, St. Thomas's Hospital; F. S. Edwards, W. Pye, and G. H. Cressey, St. Bartholomew's Hospital; C. F. Pickering and W. M. Evans, Guy's Hospital; W. P. Mears and W. R. Stewart, London Hospital; E. B. Turner, St. George's Hospital; G. C. Henderson, University College; F. A. Southam, Manchester; A. B. Barrow, King's College; C. E. Prouger, St. Thomas's Hospital.

Thirty-one candidates failed to satisfy the Court, and were referred for six months' further anatomical and physiological study.

[In last week's list the name "Henry Arthur Sherd" should have been "Henry Arthur Shera."]

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine and received certificates to practise on May 20th:—

Bruce, Peter, Colville-square, Notting-hill.
Cundell, Geo. Richard, Lock Hospital, Harrow-road.
Lory, William Manley, Exeter.
Massingham, John Page, Ripley, near Derby.

The following gentlemen passed the Primary Professional Examination on the same day:—

Charles Morton Anderson, University College; John Michael Harding Martin, University of Edinburgh and Liverpool Royal Infirmary.

THE "Dublin Gazette" last week contained an order made by the Lord-Lieutenant and Privy Council, prohibiting the importation of sheep or lambs from Spain into Ireland, sheep-pox having broken out in Spain.

GARCIA TESTIMONIAL FUND.—The committee who are raising the testimonial to Senor Garcia have appointed Dr. Elsbey, of New York, honorary secretary for the United States, Dr. Smyly for Ireland, Dr. M'Call Anderson for Scotland, and Dr. Simpson, of Manchester, for the North of England.

BRITISH MEDICAL DEFENCE ASSOCIATION. — A meeting of gentlemen interested in the formation of a Society for the purpose of preventing unqualified practice was held at the residence of Mr. G. Danford Thomas, Deputy Coroner for Central Middlesex, on Friday, May 21st. Among those present were Dr. Stevenson, (Paddington), Dr. Leslie (Westminster), Messrs. Maclean and Brooks (Paddington), Messrs. G. Brown and S. Gardner (Islington), Mr. Drew (Gower-street), Mr. Harrison (Shepherd's-bush), &c. Mr. Thomas, who presided, having explained the object of the meeting, read several letters from gentlemen who sympathise with the movement and have offered their support, among which were letters from Dr. Waddell (Norwich), Mr. F. H. Hume (Islington), Mr. H. Wotton (Bingham), Mr. G. H. Watken (Fishguard, Pembrokeshire), Mr. R. H. S. Carpenter (Commercial-road E.), Mr. F. A. Hill (St. John's-wood), Mr. Stanley Haynes (Malvern), Mr. J. O'Flanagan (Houghton-le-Spring), Dr. Croucher (Brighton), &c. Mr. George Brown proposed and Dr. Leslie seconded the following resolution, which was carried unanimously:—"That this meeting approves the formation of a Society for the suppression, by every legitimate means, of medical and surgical practice by unqualified persons, and that the Society be entitled the British Medical Defence Association." It was also resolved that the membership subscription be 10s. 6d. per annum, and that only registered medical practitioners be admissible. A provisional committee, consisting of ten London practitioners, was appointed for the purpose of carrying out the preliminary measures necessary for the formation of the Association. Mr. Thomas was unanimously elected treasurer, and Mr. George Brown, of 12, Colebrook-row, Islington, honorary secretary *pro tem.*, the latter of whom will be happy to receive the names of gentlemen willing to join the Association.

Medical Appointments.

ABBOTT, G., L.R.C.P.L., M.R.C.S.E., has been appointed a Clinical Assistant to the Royal London Ophthalmic Hospital.

ADAMS, J. E., F.C.C.S.E., has been appointed a Clinical Assistant to the Royal London Ophthalmic Hospital.

ANDREW, G., L.R.C.P.L., M.R.C.S.E., has been appointed a Resident Surgeon to the Birmingham General Dispensary, vice Rosten, resigned.

BIRT, E., M.R.C.S.E., has been appointed Assistant Medical Officer to the Salop and Montgomery Counties Lunatic Asylum, Bicton, near Shrewsbury, vice Talbot, resigned.

BOND, G. W., M.R.C.S.E., has been appointed House-Surgeon to the Great Yarmouth Hospital, vice Murrell, resigned.

BOWEN, H., M.R.C.S.E., has been reappointed Medical Officer of Health for the Southam Rural Sanitary District.

COLLINS, E. W., M.D., L.K.Q.C.P.I., L.R.C.S.I., has been appointed a Surgeon to the Jervis-street Hospital, Dublin.

CRITCHETT, G. A., B.A., M.R.C.S.E., has been appointed a Clinical Assistant to the Royal London Ophthalmic Hospital.

DUNN, Mr. T. B., has been appointed a Resident Surgeon to the Glasgow Royal Infirmary.

DUNNAGH, A., M.R.C.S.E., has been appointed a Clinical Assistant to the Royal London Ophthalmic Hospital.

EATON, J. W., M.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer to the Bingham Union Workhouse, vice Wotton, resigned.

ELLIOTT, F. H., M.B., C.M., M.R.C.S.E., has been appointed House-Surgeon to the Scarborough Dispensary and Accident Hospital, vice Calantarients, resigned.

FARNFIELD, W. E., L.R.C.P.Ed., has been appointed Visiting Medical Officer to the British Home for Incurables, Clapham-rise.

FERGUSON, D., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the Darowen District of the Machynlleth Union, vice Griffiths, deceased.

GUTHRIE, Mr. T. O., has been appointed a Resident Physician to the Glasgow Royal Infirmary.

HANNAH, Mr. N., has been appointed Medical Officer of Health for the Abram Rural Sanitary District of the Wigan Union: £12 12s. per annum; acreage 1928; population 1091.

HARRISON, H. B., M.R.C.S.E., has been appointed Assistant House-Surgeon to the Metropolitan Free Hospital, vice Harvey, resigned.

HEFFERNAN, W. K., L.K.Q.C.P.I., L.R.C.S.I., has been appointed House-Surgeon to the Memorial Hospital, Jarrow-on-Tyne.

HUNTER, C. D., F.C.S., has been appointed a Resident Physician to the Glasgow Royal Infirmary.

JEFFERY, E., M.D., M.R.C.S.E., has been appointed Medical Officer for the Mutford and Lothingland Rural and the Lowestoft Urban Sanitary Districts: £120 per annum.

JOHNSTONE, Mr. D. G., has been appointed a Resident Physician to the Glasgow Royal Infirmary.

KENDALL, J., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed a Resident Surgeon to the Glasgow Royal Infirmary.

KILBURN, W. B., M.R.C.S.E., L.M., has been appointed Surgeon to the Woodhouse-close and Tindale Emily Collieries, vice Canney, deceased.

KILGARIFF, M. J., L.K.Q.C.P.I., F.R.C.S.I., has been appointed a Surgeon to the Jervis-street Hospital, Dublin.

LOWNDES, F. W., M.R.C.S.E., L.M., has been appointed Surgeon to the Liverpool Royal Infirmary Lock Hospital, vice Puzey, resigned.

LYELL, R. W., M.D., M.R.C.S.E., has been appointed a Clinical Assistant to the Royal London Ophthalmic Hospital.

M'KINLAY, R., L.R.C.P.Ed., L.F.P. & S. Glas., has been appointed a Resident Physician to the Glasgow Royal Infirmary.

M'MIDDLETON, G., M.A., has been appointed a Resident Surgeon to the Glasgow Royal Infirmary.

MERRICK, A. S., M.D., L.R.C.S.Ed., has been appointed Resident Medical Superintendent to the Antrim Lunatic Asylum, Belfast, vice Stewart, deceased.

MORISON, J. W., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the Parish of Abbotshall, Fifeshire, vice Young, deceased.

MOSS, R. J., F.C.S., has been appointed Keeper of the Minerals and Analyst to the Royal Dublin Society, vice Reynolds, appointed Professor of Chemistry at the School of Physic in Ireland.

MUIR, W., M.B., C.M., has been appointed a Resident Surgeon to the Glasgow Royal Infirmary.

OWEN, R. E., M.R.C.S.E., L.M., has been appointed Public Analyst for the county of Anglesey: £10 10s. per annum, and 21s. per analysis.

PORTEOUS, Dr. J. L., has been elected Medical Officer to the Philps' Trust, Pathhead, Fifeshire.

ROGERS, G. H., M.R.C.S.E., has been appointed a Clinical Assistant to the Royal London Ophthalmic Hospital.

RUCKLEY, H. R., L.R.C.P., has been appointed Medical Officer of Health for the Borough of Chepping Wycombe, vice Bowstead, resigned.

SEWELL, W. R., M.B., C.M., has been appointed a Resident Surgeon to the Glasgow Royal Infirmary.

SKIRVING, Mr. J., has been appointed a Resident Physician to the Glasgow Royal Infirmary.

SMITH, H. L., L.K.Q.S.P.I., L.M., L.R.C.S.I., has been appointed Medical Officer and Public Vaccinator for the Darrow Dispensary District of the Abbeyleix Union, Queen's County, vice Stoney, resigned.

SPEAR, J., L.R.C.P.Ed., L.M., M.R.C.S.E., has been appointed Medical Officer of Health for the Hebburn and Jarrow Urban Sanitary Districts.

STONEY, P. B., L.R.C.P.Ed., L.M., M.R.C.S.E., has been appointed Medical Officer of Health for the Millom Urban Sanitary District.

SUTHERLAND, J. R., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the Rainton District of the Houghton-le-Spring Union, vice Curry, resigned.

STEER, W. J., M.D., has been appointed Medical Officer of Health for the Liversedge Urban Sanitary District.

TAY, W., F.R.C.S.E., has been appointed a Clinical Assistant to the Royal London Ophthalmic Hospital.

TWEEDY, J., L.R.C.P.L., M.R.C.S.E., has been appointed a Clinical Assistant to the Royal London Ophthalmic Hospital.

TYLER, E. A., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Ilsley District of the Wantage Union.

YELD, H. J., M.D., F.C.S., has been appointed Public Analyst for Sunderland: £5 5s. per annum, and fees.

Births, Marriages, and Deaths.

BIRTHS.

ANDERSON.—On the 18th inst., at Armiston-place, Edinburgh, the wife of Robert Anderson, M.D., of Seaton Delaval, Northumberland, of a daughter.

BRADSHAW.—On the 21st inst., at Welbeck-street, Cavendish-square, the wife of Watson Bradshaw, L.R.C.P.Ed., late Surgeon R.N., of a son.

HENDERSON.—On the 5th ult., at Lahore, the wife of Surgeon-Major Henderson, M.D., India Medical Service, of a son.

MARTIN.—On the 25th inst., at The Limes, Walkden, the wife of Wm. Y. Martin, L.R.C.P.Ed., M.R.C.S.E., of a daughter.

RABY.—On the 25th ult., at Belgaum, the wife of John Raby, L.R.C.P.Ed., Bombay Army, of a daughter.

ROWLAND.—On the 14th inst., at Malvern Wells, the wife of H. M. Rowland, M.D., of a daughter.

WEATHERHEAD.—On the 18th inst., at Claremont Villas, Kew-bridge, the wife of John F. Weatherhead, L.F.P. & S. Glas., of a son.

MARRIAGES.

PENDICK—BRASNETT.—On the 20th inst., T. Rowing Pendick, M.R.C.S.E., to Jessie Maria, daughter of John Brasnett, Esq., of West Bilney, Norfolk.

LYONS—CORMACK.—On the 25th inst., at the British Embassy, Paris, R. T. Lyons, Surgeon-Major 28th Regiment Bengal Infantry, to Eliza Grace, third daughter of Sir John Rose Cormack, M.D.

TABUTEAU—WEBB.—On the 11th inst., at St. Paul's, Portarlington, Joseph M. Tabuteau, M.B., to Louisa Maria, daughter of the late Captain G. G. Webb.

DEATHS.

ASHTON.—On the 11th inst., at Walton-le-Dale, Lancashire, Henry Ashton, L.R.C.P.Ed., aged 62.

BARNES.—On the 7th inst., at Clare, Suffolk, John Barnes, Surgeon, aged 72.

CRAVEN.—On the 18th inst., at Worksop, Robt. Craven, Surgeon, aged 63.

FURNIVALL.—On the 21st inst., at Great Bentley, Essex, Wm. H. Furnivall, M.R.C.S.E., aged 87.

GREEN.—On the 11th inst., at Norwich-road, Ipswich, W. Green, Surgeon, formerly of Ixworth, aged 83.

NANCE.—On the 14th inst., at Eccleshall, Staffordshire, James Nance, F.R.C.S.E., aged 36.

SMITH.—On the 24th inst., at Talbot-road, Dr. John Smith, late of Torquay and Calcutta, aged 69.

SPURGIN.—On the 20th inst., at Ipswich, Chas. S. Spurgin, M.R.C.S.E., aged 76.

TRUMAN.—On the 12th inst., at Arboretum-street, Nottingham, Beckit Truman, M.R.C.S.E., aged 72.

TURNOCK.—On the 14th inst., at Leek, Richard Turnock, M.R.C.S.E., aged 29.

WOAKES.—On the 9th inst., at Luton, Edward Woakes, M.R.C.S.E., aged 73.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

Notes, Short Comments, and Answers to Correspondents.

FOURTH INTERNATIONAL MEDICAL CONGRESS, TO BE HELD AT BRUSSELS ON SEPTEMBER 19TH, 1875.

THE first meeting will take place, under the patronage of Government, in the large hall of the Academies at the Museum. The Congress is to be exclusively scientific, and will last one month. Members of the medical profession, both national and foreign, will be admitted on sending their request to the Committee. None but these will be allowed to take share in the discussions. No fee is demanded; but a sum of 10s. must be paid, for which a copy of the Transactions of the Congress will be given. The requests may be sent in from the 1st of next July. The programme consists of eight sections—Medicine, Surgery, Midwifery, Biology, Hygiene, Ophthalmology, Otology, and Pharmacology. Each section comprises one or more questions, with the appointment of a reporter. It is not clear what kind of duties this reporter will have to perform. Nor is it stated whether members of the Congress will be allowed to read papers, unconnected with the questions, but referring to the branch of medical science included in the section. Moreover, it will not be easy for foreigners to send the 10s. along with the request to become a member of the Congress.

Messrs. Mead and Son, (Jermyn-street.)—The error of date was noticed, and the correct year given, in a note which appeared in our last impression, page 746.

MARINE LINT.

To the Editor of THE LANCET.

SIR,—Two years ago I wrote a letter to you, suggesting the use of marine lint for the relief of pruritus ani. Last week "Beta" reported most favourably of his own case. I have often been written to, inquiring what this lint was, and to-day I have a letter asking about it. As it does not appear to be generally known, I beg to state that it is finely carded tow soaked with tar, kept in tin cases. I get my supply from Messrs. Catling, of this town, and they tell me that it is made by Maw and Son, of London.

I am, Sir, yours truly,

Leamington, May 24th, 1875. JAMES THOMPSON, M.B.

INHALATION OF OXYGEN IN APOPLEXY.

M. TAMIN DESPALLE has communicated the following case to the Academy of Sciences of Paris:—A member of the National Assembly was seized on April 18th with congestion of the brain. He fell down, and had hemiplegia of the whole right side. Pulse 82, bloated face, and stomach full of food, as luncheon had been partaken of half an hour before. The author says that he refrained from bleeding or the administration of an emetic, and at once ordered inhalations of pure oxygen by means of an apparatus lent by M. Limousin. After the first inhalations the patient declared he felt much better, and both movement and sensibility returned gradually on the paralysed side. At six o'clock P.M. shivering took place, followed by an abundant secretion of urine. The patient yawned much, and had repeated escapes of gas by mouth. At seven o'clock he could stand upright, and the attack seemed overcome. As much as ten quarts of pure oxygen had been absorbed. The author of the paper states that this mode of treatment might be taken into account by the Academy, and fix the attention of practitioners.

X. Y. Z.—The mountebank proceedings described in the paper sent to us are unworthy of serious notice. They are probably a source of amusement to the real friends of the infirmary.

Mr. Callender's lecture shall be published at an early date.

SPONTANEOUS DISLODGEMENT OF TAPEWORM.

To the Editor of THE LANCET.

SIR,—The following case may be deemed of sufficient interest to merit a place in your columns.

D. B——, a broker, aged thirty-five years, called upon me in January last with the following history:—He had been suffering for two years past with pains in the epigastrium, accompanied by indigestion, mental depression, dyspnœa, emaciation, &c. During this time he had, upon the advice of his medical attendant, been abroad, and there consulted eminent authorities, among others Liebermeister, who gave his diagnosis as angina pectoris, ordering rest and a milk diet. The patient was subsequently attacked by typhoid fever, which the milk may or may not have been instrumental in causing. Upon his recovery he returned to America. The great dilated pupillæ at once suggested to my mind the presence of intestinal worms; but his exhausted condition forbidding effective medicinal measures, at least as far as attacking the parasite was concerned, I prescribed tonics and a good strengthening diet. Twenty-one days later this gentleman came to me, announcing the fact that whilst at stool that morning (Jan. 30th) he noticed something protruding from the anus. In endeavouring to extract this it broke off, and he had brought it with him. It proved to be the head, neck, and a few segments of the body attached of a tapeworm. These were dead. A close examination with the aid of the microscope showed this helminth to be a tænia solium. There were the papilla, projecting from the centre of the head armed with its double circle of hooks, and the suckers, four in number, by which the worm attached itself to the mucous membrane of the small intestine. Emulsion of cucurbita pepo at bedtime, followed by a seidlitz powder in the morning before breakfast, brought away the remainder of the body (which was alive) of this monster, 14 ft. in length. The dose was not repeated, but an infusion of steel and quassia given, which sufficed to restore the patient to health. He is now in that delectable condition, "mens sana in corpore sano." For three months he has had no return of his former symptoms.

The extreme difficulty of dislodging the head of the armed pork tapeworm has long been recognised. Is not the case a very remarkable one? Does not the fact that the patient when a boy had oxyuris vermicularis, which German pathologists say are the progenitors of the cestode group, bear upon this case? Any information on this point will be thankfully received by,

Your obedient servant,

Baltimore, U.S., April, 1875. G. H. ROYLAND, M.A., M.D.

A HINT FOR SMOKERS.

REFERENCE is made in the last number of *Nature* to a property which cascarilla bark has in modifying the physiological effects of tobacco-smoking. The addition of a few very small fragments of the bark will, it is alleged, in most cases counteract the nauseating effects of strong tobacco, although if such a mixture of tobacco and cascarilla bark be smoked to excess it will sometimes produce loss of appetite and thirst, with vascular and nervous depression.

Cum Æquo Animo.—We consider the police authorities responsible, at any rate for the earlier visits of our correspondent.

MORTALITY AFTER CHILDBIRTH.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Aug. 22nd of last year a letter appeared, signed "Obstetricus," requesting medical men in private practice to furnish the writer with statistics regarding the death-rate in midwifery practice. Will you allow me to add my mite. Cases attended during seven years, 350. Adherent placenta, 12; post-partum hæmorrhage, 12; arm presentation, 10; breech, 6; forceps, 4; footlings, 3; face, 3; gemini, 5; convulsions, 2; placenta prævia, 1. Deaths, none.

Yours faithfully,

Sheffield, May, 1875. HERBERT JUNIUS HARDWICKE, M.D.

To the Editor of THE LANCET.

SIR,—The following statistics of mortality from childbirth I have carefully prepared for the disposal of "Obstetricus," and should feel obliged by your inserting them in your next issue. Time, thirty years; cases, 1000. Gemini, 34; forceps, 25; arm presentation, 10; breech presentation, 16; footlings, 14; shoulder presentation, 1; funis presentation, 3; face presentation, 5; elbow presentation, 1; chest presentation, 1; flooding, 16; prolapsus uteri, 1; convulsions, 10; adherent placenta, 23; rupture of uterus and versio, 1; placenta prævia, 7; craniotomy, 3. Deaths, 2—one from placenta prævia, and another from convulsions.

I am, Sir, yours truly,

Rotherham, May, 1875. JUNIUS HARDWICKE, F.R.C.S. Eng.

A POPULAR DRINK IN THE NEW WORLD.

THE writer of an interesting article, headed the "Tea-tree of Paraguay," in a late number of *The Colonies*, describes the *yerba mate*—the staple beverage of the inhabitants of the South American Republics—as a diuretic and a slight aperient, and as having in some cases an exhilarating, in others a soporific effect. Those who have contracted the habit of taking *yerba* have more or less difficulty in discontinuing its use. In the mining districts of the South American States the consumption of the beverage is almost universal, and the creole population are passionately fond of it, never travelling any distance without a supply of the herb. The infusion is drunk as hot as possible, usually without admixture, but sometimes, like tea, with the addition of sugar and milk.

Mr. C. J. Peacock, (Scarborough.)—We regret we cannot refer to the matter again.

DANGERS IN MIDWIFERY PRACTICE.

To the Editor of THE LANCET.

SIR,—Mr. C. S. Richardson had reason to be, and no doubt was, agreeably surprised to find that his patient escaped serious consequences after the danger to which he says (in THE LANCET of May 8th) she was exposed. Mr. Richardson also says: "This is but one of numerous cases of a similar character that I have met with. "F. G. L.," too, in your last impression, states that 600 midwifery cases have been brought to a happy termination under his professional care, and that he never lost a patient, though they have been often exposed to infection of a like nature.

Some are singularly happy in all that falls to their care. Such glowing accounts may be depressing to those who have taken their share of the anxieties arising from causes beyond their control. The two cases I shall, with your permission, relate will not, I hope, tend to lessen that caution in the practice of the obstetric branch of our profession, the neglect of which may, and often does, lead to illness of a most serious and uncontrollable character.

Mrs. H—— was taken in labour with her first child. Her engaged nurse had been occupied a part of the day in nursing a case of English cholera, which was fatal in a few hours. After "laying out the body" she received information that her services were required, and she went direct from one house to the other. The case progressed, and ended most favourably about three hours after my arrival. This lady died of blood-poisoning after seven days' illness.

On my return from visiting a patient six miles distant, who was suffering from slight phlegmonous erysipelas of the knee, with small abscess, I was unfortunately called to a case of midwifery. The case progressed and terminated most favourably in all respects. At the end of two days (and though I had not neglected my usual practice of thoroughly washing my hands after touching a woman) this lady was seized with the usual symptoms of blood-poisoning, of which she died at the end of a week.

I am, Sir, yours obediently,

Hitchin, May 24th, 1875. O. FOSTER.

THOUGHTS ON VIVISECTION.

A HANDBILL with this heading has been forwarded to us, accompanied by a note, which, from the handwriting, we judge to be the production of a lady. The handbill is just one of those documents which is calculated to defeat its object with any thoughtful person, for it deals in the most sensational and exaggerated language. The writer, knowing nothing of the subject, nevertheless seizes the opportunity for what is termed heaving the dictionary about. We are very glad to consider any contribution containing "thoughts" worth thinking about, but these belong to the unthinkable. However, many people are silly enough to imagine that heaping up adjectives, superlatives, and expletives, without discrimination, is a forcible way of putting their case.

Mr. Rothwell.—Why not take the opinion of a magistrate?

SUBJECTS FOR ANATOMICAL DEMONSTRATION IN CANADA.

To the Editor of THE LANCET.

SIR,—I notice in your issue of April 3rd a reference to the scarcity of anatomical material in Montreal, which you suggest may be owing to the absence of legislation for supplying the need of bodies for dissection. In this you are under a misapprehension, as an Act for this purpose does exist in the Dominion. This Act provides that the bodies of all persons found publicly exposed, or who immediately before death had been supported in and by any public institution receiving aid from the Provincial Government, shall be delivered to persons qualified to act as teachers of anatomy, unless claimed by *bona-fide* friends or relatives within the usual period for interment, or unless the person before dying objects. Under this Act the school to which I am attached has ordinarily an abundant supply of material for dissection, derived from the Penitentiary, Common Gaol, General Hospital, and House of Industry. As far as I have heard, the Toronto schools of medicine are also, as a rule, sufficiently supplied from the different public institutions there. The real difficulty at Montreal is owing to another cause—namely, the large proportion of the Roman Catholic element in the population, and the strong objection that both laity and clergy have to bodies being used for this purpose. As most of the public institutions in the Province of Quebec are under Catholic control, the managers naturally use all their influence to prevent the bodies of persons dying in them being used for anatomical purposes, and hence arises the scarcity of subjects in the Montreal medical schools, which have to look elsewhere for the needful supply, and to purchase whatever bodies they can, without being too curious as to how they are obtained. The remedy for this will not be additional legislation, which would be inoperative, but the education of the people, and especially the priests, to see the necessity for dissection, and also its harmlessness to the individuals operated on; the only real objection being the feelings of the friends, which will not be lacerated if the friends do not exist. If those who cry out so loudly when a grave or vault is robbed would only permit the law as it exists to be carried out, such things would be as rare in Montreal as in Kingston or Toronto, where they are never heard of.

I am, Sir, yours faithfully,

H. J. SAUNDERS, M.D., M.R.C.S.,
Demonstrator of Anatomy, R.C.P.S.

Kingston, Ontario, April 22nd, 1875.

FRENCH AND GERMAN LITHIA.

HITHERTO it has been supposed that Germany had the monopoly of lithia, and that very little could be found in the French springs. It would seem, however, from an article in the *France Méd.* of the 19th May, that, by spectral analysis, Messrs. Truchot and Boucomont have shown the presence of lithia in six well-known springs of the French province called Auvergne. In fact, the water of Châteauneuf and Royat has been found to contain as much as 35 milligrammes (a little less than one grain) of lithia in a quart of water. M. Genevoix, the author of the article, expresses great joy at this circumstance, and considers that French mineral-water drinkers are thus quite released from the necessity of repairing to Germany in search of lithia.

CHARITY VOTING REFORM: ROYAL MEDICAL BENEVOLENT COLLEGE.

To the Editor of THE LANCET.

SIR,—The inimitable Sam Weller said to his master in their sliding adventure, "Keep the pot a bilin," Sir. So say I in the matter of charity elections now pending; and, now that the ice is fairly broken, I hope every subscriber to every charity will be stirred to endeavour to remodel the present recognised evil of charity elections, not resting till the subject is most fully ventilated.

As the deputation to the College Council felt decidedly pooh-pooh'd, so am I, in common with hundreds of others no doubt, disappointed at the result of the gathering on the 19th inst. in Soho-square. We will not, however, particularise any of the proceedings, which is not given in any very long detail in THE LANCET of the 22nd, yet I may be permitted to differ from one or two of the speakers thereat. And, first, I take exception to the part of the report referring to the option of governors desiring not to be canvassed, and that so few have responded, while absolutely it is not at all surprising, because there is no waste of common sense to see that this is not the point at issue at all, but simply goes to spare a few the *ennui* of being canvassed, and not to ascertain their feeling as to the cruel mode of elections. Besides, we all know what a nice receptacle the waste-paper basket is for many printed papers not fairly and properly brought to notice. There can be no doubt hundreds have been so thrown aside as useless; for who, let me ask, really cares as to being canvassed or not, except that it is human nature to wish almost to be asked a favour, which by their subscribing one would expect they would desire rather than not? Nay, the care, or rather vexation, is that the canvassing cards shall cost the poor widow or her friends from £25 to £30 an election! Here is the pith and marrow of the thing—the fallacious mode of election, the expense and vexation attending it, &c. And to talk of charity election! it is no such thing; it is no charity at all; it is a misnomer: certainly it is *not public* charity. The best that can be said of it is to call it private charity, by which the wrong party is relieved. It is not charity to the really indigent; but it is charity to the rich or well-to-do friends or relatives of a candidate, who may or may not be fairly well-to-do also; and therefore I hold that the charity is abused, because very often the weak still "go by the wall"; while the patron or patrons of the other class are the parties benefiting by the charity, from the simple fact that their money and interest are used for their *protégés* (probably relations) *pro hâc vice* only, in order to palm them upon some public institution for three, four, or more years certain, by which they (the patrons) are rid of all further expense for that term at least; whereas, failing admission, they are kept liable to an annual call for aid, as in duty bound all well-to-do relatives should be. For to whom should a poor widow look for aid except to such of her own or her husband's friends as may have better means? And where, I would ask, is the family without some such friends? Yet, if such be really to be found, as may here and there, then I say let them have the full benefit of a real charity-voting institution, this being best obtained, in my opinion, by a Committee of Council of such charity.

I must next take exception to the ground of finances, and should be glad to know that half, or even a tenth, of the money representing the "large sum *en bloc*" really existed as a set-off against the £240 value of the four Scholarships. I believe in no such thing. As honorary secretary for nearly twenty years, I may have received five guineas from friends of candidates for the sake of the vote *pro hâc vice*, and therefore it cannot be.

Thirdly, I take exception (and I do all this in full deference to the College authorities) to the part referring to infringement on the Act of Parliament. Will anyone be found to tell me that our House of Commons holds one member who would not see in a moment the necessity for rescinding, or even repealing, such part of the Act as is now so patently injurious and cruel to the widow and fatherless? Certainly not.

Next, we are assured "that the Council would accept any suggestion for simplifying the conduct of elections." To my mind nothing is more simple and easy, and my first suggestion would be that the Council convene another general meeting of subscribers and governors by advertisement in the daily papers as well as in the medical journals, and that the local secretaries be specially invited to attend, and bring with them or send (where unable to attend) the voucher or wish of each one of their respective subscribers; then see if the list will not swell from 1300 to at least half as many thousands, which will absorb quite three-fourths of the whole.

A few words in conclusion, and in anticipation of the great objections assigned and dreaded, and I have done. It is argued by the opposing party that subscriptions will be withdrawn if the system be altered. I believe in no such result, but have good reason to know that in many cases where a guinea is now given, another will be added under an improved system; and, alas! I have also good reason to believe, on the other hand, that under the present system subscriptions will be withheld. In truth, I have already intimated this to the Secretary, asking him not to calculate upon my continued subscription or efforts to induce others, since it is a positive fact that my already reduced list of subscribers have, every one, committed his objection to the present system to paper for the use of the Charity Voting Institution. Surely it is obvious, patently obvious, to everyone that not one in a thousand subscribers to any charity is so because he or she expects to have a candidate to bring forward who must be relieved. Nay, the contributors to these charities are animated by the broad and philanthropic principle that *sese sibi vivat*. If anything more is wanted in depreciation of the present objectionable traffic in voting, let me refer your readers to some *apropos* remarks in the *Queen* newspaper of May 1st.

And now I pray you, Sir, to pardon me for troubling you at such length, and say, if you will, that I have charity-voting on the brain; while I will say, God bless the widow and the fatherless.—Your obedient servant,

East Rudham, May 24th, 1875. FRED. MANBY.

SUGAR FROM IRISH BEET-ROOT.

AT the Royal Dublin Society last week a meeting of gentlemen interested in the cultivation of beet in connexion with the manufacture of sugar was held. Observations were made by Prof. Cameron and others in reference to the advantages to be obtained by the cultivation of beet-root in Ireland, and it was shown that the crops grown there were superior to those produced on the Continent. The climate of Ireland has been found to be well adapted for the culture of beet, on account of its mild winter and spring, and the absence of severe drought in summer. Good Irish roots yield from 10 to 12 per cent. of sugar, the average being that 13 tons will produce 1 ton of sugar worth £24, in addition to £4 worth of molasses, and refuse pulp &c. used for feeding cattle; and as about 20 tons per acre may be considered a fair average crop, it will be seen that the speculation ought to be a successful one.

R. M.—There is no iron rule. Those who can pay should. Those who cannot, even if in an adjoining parish, are entitled to consideration. A parish should not allow the state of things which calls for such kindness on the part of the medical man.

A Student, (Islington.)—If our correspondent will repeat his question it shall be answered.

Mr. W. Gordon (Dover) should consult a surgeon.

OBSTETRIC CUSTOMS.

To the Editor of THE LANCET.

SIR,—It would seem from the letters of some of your correspondents that there are strange obstetric customs in the north. But I question if there is any more strange, more dangerous, or more absurd than one which prevails largely in Yorkshire. It is this:—

The patient is confined with her clothes on, *all* her clothes (except, perhaps, her bonnet and shawl)—boots, stockings, drawers, petticoats, stays, dress, and the rest. If labour happens to set in when the woman is undressed in bed, the first rush on the part of herself and friends is to get her clothes on. She then usually lies down on the under mattress, the upper mattress or bed being turned over out of the way, and the labour goes on to its termination. When the placenta comes away, the woman, without any further delay, is "got into bed," as it is called. This process consists in her getting up and standing on the floor, or sitting in a chair, while her clothes are taken off, a clean night-dress put on, and the bed made, when she mounts into it as if nothing particular had occurred.

Your readers will readily imagine the inconveniences and dangers connected with a custom like this. Manipulations which may be necessary during the course of the labour are prevented, and there is great risk of syncope and of hæmorrhage afterwards. Yet the practice is acquiesced in without protest by the medical practitioners—in my opinion to their great disgrace,—many of them, indeed, presiding at and assisting in the process of disrobing the female, and earning a questionable reputation by their dexterity therein. Only the other week I heard a woman describing a neighbouring surgeon as the handiest little fellow she ever saw at getting a woman into bed! Yet another method of obtaining distinction in our noble profession!

Surely, Sir, a little firmness and united action on the part of the Yorkshire accoucheurs might put an end to a custom so unpleasant and inconvenient to themselves, and so dangerous to the women whom they attend in their confinements.

I am, Sir, yours truly,

Bradford, May 20th, 1875. J. B.

MESSRS ASHBY MEDICAL DISPENSARY.

A LARGE poster has reached us, meant to intimate to the artisans, labourers, their wives and families, of Messrs Ashby, that they can have professional attendance and medicines for 9*d.* a quarter at the hands of Dr. Wright. Dr. Wright, we learn from the Directory, is a graduate of the Edinburgh University, and we should like to know how he thinks the profession must appear in the eyes of the people of Wellingborough when graduates of a famous University post bills and sell their advice and their medicines for 9*d.* a quarter, or to families at reduced prices! If such things are to be done by graduates, what are we to expect from others.

D. M. A. K. ought either to have expressed a willingness to meet the practitioner in attendance in consultation, or to have instructed the patient to intimate to his usual adviser his intention of calling in another practitioner.

An Old Subscriber.—The first question is too profound for us; but we should be disposed to a negative answer.—2. Neither of the qualifications mentioned entitles the holder to use the title of doctor.

VIVISECTION.—THE HOSPITAL AT FLORENCE.

To the Editor of THE LANCET.

SIR,—A severe criticism has recently appeared in a Florentine newspaper upon the enormously multiplied vivisections of Prof. Schiff, of that city. It is stated by the Italian editor that within the last few years 15,000 dogs have perished under his hands, and the editor very pertinently asks what adequate result has been achieved through all this hideous suffering? It appears also that Prof. Schiff obtains his dogs through the agency of dog-stealers, who are paid by him. It may seem strange that the Florentine municipality should permit this without interference; but the fact will appear less surprising when it is known that this body is almost as indifferent to human suffering as to canine. The hospital at Florence has a most unenviable reputation. The mortality amongst its inmates is so great that, with the lower classes, to be sent to the hospital is considered to be pretty much the same thing as to be sent to one's grave. The stench is sometimes perceptible in passing along the street. It will scarcely be believed that the severest operations are performed in it without the use of anæsthetics—at least this was the case two years ago, when I made a long stay in Florence, and received this fact on excellent medical authority. The reason assigned was that the chloroform furnished to the hospital was so dangerously bad that the surgeons were afraid to use it.

I am, Sir, yours &c.,

Philadelphia, May 12th, 1875. M. C. L.

ARMY MEDICAL DEPARTMENT.

To the Editor of THE LANCET.

SIR,—The changes of system inaugurated by the Warrant of 1873 ought to be considered under three heads:—

1. Changes in the organisation of military hospitals.
2. In the formation of a corps of orderlies to supersede regimental orderlies.
3. Reorganisation of the army medical department.

The first, or adopting of a general hospital system, I have always advocated; but it occurs to me that too much importance has been attached to this change of system.

The second, or formation of the army hospital corps, was a capital move, although keeping up a fixed establishment of this sort will prove expensive.

Now we come to the third, or rearrangement of the officers of the department from a regimental to a departmental system. The merits or demerits of this latter change have been much discussed. This is the point at issue; yet, strange to say, different matters are so jumbled together by writers that it is often difficult to understand to what they refer—that is, whether military hospitals or medical officers are the subject of their remarks, while these subjects are quite distinct, and must always be treated of separately before we arrive at any definite understanding as to what are the legitimate requirements of medical officers; for the change of position of these officers as regards regiments and the service generally is quite irrespective of the system adopted in the buildings in which the sick are treated, the conditions of service of the nurses, orderlies, or attendants, or arrangements in connexion with purveyors' duties, transport, &c. Thus confined within certain limits, and dealing merely with the department and the conditions of service of the officers of which it is composed, the question arises by what arrangement of its members will the country get best served, and the officers, taken as a body, derive most advantage, with least expense to the State, when practically adapted to meet the various requirements of the army. In considering this we ought never to lose sight of the principle that the interests of the department are a combination of individual interests; and when the individual interests of its members suffer, the interests of the department suffer loss.

Now, I shall remark on one or two losses sustained by adopting the present system, without reference to vested interests or those of a sentimental or social nature.

There were 117 assistant-surgeons in the Royal Artillery, and 37 in cavalry regiments, and of these officers of the department about 95 were provided with horses, horse appointments, grooms, &c.,—advantages equal to about £45 a year. Those in cavalry and horse artillery bought and kept horse, and provided horse appointments at their own expense; still, like other officers, they had the privilege of being allowed a groom, stabling, and forage at 6*d.* or 8½*d.* a day for two horses, and while serving in India they received £108 a year to keep up chargers. Thus, in round numbers, taking all mounted branches, about 160 appointments of at, say, £50 a year each, were taken from amongst the assistant-surgeons of the department, and what adequate rewards or future prospects have ever been put forward as equivalents to these direct and positive pecuniary losses? Moreover, the appointments through which they were received were recognised "gifts" at the disposal of the Director-General for deserving officers. This latter fact disproves assertions made that medical officers in crack corps were wanting in either zeal or ability.

By being attached instead of gazetted to regiments, the position of about 200 medical officers has decidedly been reduced; yet for these respective positions they only paid the same subscriptions. Neither are they as independent of commanding officers as formerly, the attachment being slighter than the gazette. They can more easily be removed from regiments at the colonel's request, or he can withhold forage certificate, or refuse stabling and groom, or may regulate the hours of attendance at inspection room, &c. As regards his position in the service generally, you see he lives almost on sufferance in the mess and regiment. Now, if a man's local position, responsibility, authority, and independence are named amongst his immediate associates, his position in the service follows. By being deprived of their commissions, about 200 surgeon-majors of corps had their positions thus altered in the service, and in lieu of this some substantive advantage ought to be shown, for the department has suffered considerably by the removal of these appointments, which young men looked forward to on promotion; but now there is nothing to look forward to except various periods of attachment. Promotion thus shorn of its advantages is not sought after as formerly; for your position in either department or service is scarcely improved by it. Who cares whether you are a surgeon or surgeon-major, reduced to the dead level of unification. Your duties are none the less irksome, and you no longer are entitled to forage allowance of 1*s.* 10*d.* or 3*s.* 8*d.* a day, stabling and groom. Moreover, surgeon-majors of cavalry and horse artillery serving in India received £144 a year each for keeping up chargers. Thus we see the department lost from its junior ranks 160 attractive appointments, with emoluments equivalent to £50 a year each. These were naturally much sought after, and were recognised gifts; while more than 200 seniors were left in a peculiar and undesirable position. Now, is it not difficult to conceive how the department has improved when the present position and future prospects of so many of its members have suffered?

Taking a broad view of the case, medical arrangements must be subservient to the peculiar regimental system of the State, and as I fear it will be found practically that a medical officer is a necessary appendage to a regiment, the sooner the department is restored to its lost position in this respect the better; for as we cannot have unification in its integrity—that is to say, ideal, theoretical unification,—let us not sacrifice our own interests. Because a medical officer is gazetted to a regiment or ship, there is no reason that this arrangement should interfere with the respective departments having complete control over military as they have over naval hospitals. I fail to see the argument often adduced, that if a man is proud of the regiment or ship in which he may have the honour to serve, the interests of his profession are necessarily compromised. It is a narrow view of the subject to suppose so; for there is a Freemasonry, so to speak, amongst doctors that has a far wider range than the *esprit de corps* of any regiment in the service.

In the Indian service medical officers hold all sorts of appointments, civil, staff, and regimental, wearing different uniforms, all having separate or individual interests, yet, as a body, contented and united; for the interests of the department are a combination of individual interests, and in a wider sense the interests of the profession generally.—Yours &c.,

May 5th, 1875. A MEDICAL OFFICER.

PROSECUTION OF QUACKS.

X. Y. Z.—1. The following is the stereotyped reply which the Registrar of the Medical Council forwards to inquiries relating to the prosecution of unqualified persons:—"If an unregistered person can be *proved* to pretend to be registered or to be a legally qualified practitioner of medicine or surgery, he can be prosecuted *by any one* before the magistrates in Petty Sessions, under the 40th section of the Medical Act (1858), for the penalty imposed by that section. The Medical Council is not enabled to institute or conduct such prosecutions; but it will remit a part, or the whole, of any penalty that may be recovered, towards defraying the expenses of the prosecution." — 2. No unregistered person can sign a valid certificate (vaccination and death included), nor can he legally hold any appointment, or recover for fees in any court of law for medical or surgical attendance.

G. M.—Certifying surgeons under the Factory Acts are appointed by the Inspectors of Factories, who have the power also to annul any such appointment.

THE BALY MEDAL.

IT would appear that the College of Physicians have invited M. Claude Bernard to come over to London, at the time when the Harveian Oration will be delivered, to receive publicly the above Medal, which has been conferred upon him. The *Gaz. Hebd.* says it is to be hoped that the eminent physiologist will be able to accept the flattering invitation.

Notes.—We regret that our correspondent's letter was mislaid. Probably he has obtained the report by this time. If not, he has only to write for the number containing the results of official investigations into outbreaks of disease.

P. S. J.—Certainly not.

COMMUNICATIONS not noticed in the current number will receive attention in our issue of the ensuing week.

COMMUNICATIONS, LETTERS, &c., have been received from—Prof. Humphry, Dr. G. Johnson, London; Mr. Hutchinson, London; Dr. C. T. Williams, London; Mr. Henry Lee, London; Dr. Wiltshire, London; Mr. Callender, London; Dr. Farquharson, London; Dr. Morell Mackenzie, London; Sir C. Trevelyan, London; Mr. Maunder, London; Dr. Mapother, Dublin; Mr. G. Brown, London; Mr. Peacock, Scarborough; Dr. T. Colan, Portsmouth; Mr. Thompson, Omagh; Mr. Latimer, Plymouth; Mr. J. West, Edgbaston; Inspector-General Goodall; Mr. W. Gordon; Mr. W. Smith, London; Dr. Spencer Cobbold; Mr. Foote, Rotherham; Mr. Donnelly; Mr. Boutcher, London; Dr. Hall; Mr. Reeves; Dr. Thompson, Leamington; Dr. Lowndes; Mr. E. Smith; Mr. Dickson, Bristol; Mr. Robinson, Dublin; Mr. Jones, Hereford; Mr. D. J. Allen, London; Mr. F. Manby, East Rudham; Mr. R. Minoms; Staff Surgeon Buckley; M. Chabriere, London; Dr. Dreschfeld, Manchester; Mr. Foster, Hitchin; Mr. Ryan, Chesterfield; Mr. Rothwell, Preston; Mr. J. Hardwicke, Rotherham; Messrs. Mead and Son, London; Mr. Shera, Sheffield; Mr. O. Leadman; Dr. Ruckley, High Wycombe; Mr. Hannah, Ashton-on-Mackerfield; Mr. Edwards, Cardiff; Dr. Kilburn, West Auckland; Dr. Bayes, London; Messrs. Potts and Co., Birmingham; Messrs. Wright and Co., London; Dr. Gill, Folkestone; Mr. M'Kenna, Farnborough; Mr. Sampson, York; Mr. Lumsden, Blackhill; Mr. Brooke, Langport; Mr. Harris, Birmingham; Messrs. Leydell and Co., Birmingham; Dr. Sheldon, Notting-hill Mr. Wilkinson, Barrow-in-Furness; Mr. Lewis, Bath; Mr. Champion, Exeter; Mr. Lilley, Glasgow; Mr. Fyfe, Norwich; Mr. Wilkinson, Scarborough; Messrs. Howard and Sons, Stratford; Dr. Taylor, Nottingham; Mr. Jones, Moseley; Dr. Sewell, Glasgow; Dr. Bramwell, Newcastle-on-Tyne; Mr. Smith, Lasswade; Mr. Denton, Leicester; Mr. Gillanders, Fortrose; Mr. Pater, Upper Norwood; Dr. Simpson, Glasgow; Dr. Davey, London; Mr. Bolton, Lints Green; Mr. Fergusson, Bridge of Allan; Dr. Coales, London; Dr. Porteous, Pathhead; Mr. Beatson, Newcastle; Mr. Lea, Philadelphia; Mr. Waring Curran, Mansfield; Royal Institution; J. B.; W. A., Jabalpore: The Ladies; Manchester; An Old Subscriber; T. E.; P. B. S.; F. M. B.; J. B.; F. E., Hampstead; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from — Mr. Storey, Millom; Mr. Ryder, Dalston; Mr. Evans, Bromwich; Dr. Alderson, Hammersmith; Dr. Morgan, Lichfield; Mr. Snow, Truro; Mr. Martin, Walkden; Mr. Aybrin, Great Stanmore; Mr. Eccles, Gateshead; Mr. Terry, Bradford; Dr. Akerman, London; Mr. Thomas, Brockley; Mr. Dixon, Leicester; Mr. White, Kensington; Mr. Reilly, New Cross; Mr. Currie, Amble; Dr. Whitmarsh, Hounslow; Mr. Pyle, Amesbury; Dr. Frodsham, Streatham; Mr. Shillitoe, Hitchin; Messrs. Harvey & Reynolds, Leeds; Mr. Lidderdale, Kintbury; Mr. Sharp, Truro; Mr. Silverlock, London; Mr. Force, Exeter; Mr. Pearse, Wisbeach; Mr. Hughes, Dinas Mawddwg; Dr. Waller, Peterborough; Mr. Doble, Paisley; Mr. Wright, Newmarket; Mr. Robinson, Denbigh; Mr. Knott, Bromyard; Mr. Clarke, Ingatestone; Mr. Wigg, Tunbridge Wells; Dr. Jones, Aberavon; Mr. Gill, Torquay; Dr. Bell, Preston; Mr. Slott, Canton; Mr. Freer, Leicester; Mr. Tivy, Liverpool; Dr. Osburne, Lindville; Mr. Sergeant, London; Dr. Anderson, Edinburgh; Messrs. Smith & Son, Manchester; Dr. Pratt, Newtown; A Student; J., Manchester; Medicus.

East London Observer, Surrey Advertiser, Manchester Guardian, Cork Constitution, Isle of Man Times, Kilmarnock Standard, Liverpool Daily Post, Huddersfield Chronicle, Western Morning News, Halifax Times, Local Government Chronicle, Derbyshire Times, Brighton Guardian, Newcastle Daily Chronicle, and *Nottingham and Midland Counties Express* have been received.

METEOROLOGICAL READINGS

(Taken by Steward's Instruments).

THE LANCET OFFICE, MAY 27TH, 1875.

Date	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia. in Vacuo	Max. Temp. Shade	Min. Temp.	Rain-fall.	Remarks at 8 A.M.
May 21	29·80	S.W.	55	58	107	71	53	...	Fine
" 22	29·83	S.W.	51	57	99	66	45	0·04	Cloudy
" 23	30·13	W.	51	59	106	67	49	...	Cloudy
" 24	30·43	N.W.	50	54	102	72	46	...	Overcast
" 25	30·29	W.	52	57	106	71	49	...	Overcast
" 26	30·25	N.	47	53	97	65	48	...	Cloudy
" 27	30·26	N.	46	53	...	...	48	...	Cloudy

Medical Diary for the ensuing Week.

Monday, May 31.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. Henry Lee, "On Syphilis, and on some Local Diseases affecting principally the Organs of Generation."

Tuesday, June 1.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL INSTITUTION.—3 P.M.—Prof. Gladstone, "On Chemical Force."

Wednesday, June 2.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1½ P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. Henry Lee, "On Syphilis, and on some Local Diseases affecting principally the Organs of Generation."
OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Adjourned Discussion on Puerperal Fever.—Some interesting Specimens will be exhibited at the beginning of the meeting.—The Discussion on Puerperal Fever will then be resumed by Dr. Savage.

Thursday, June 3.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
ROYAL INSTITUTION.—3 P.M. Prof. Dewar, "On the Progress of Physico-Chemical Inquiry."

Friday, June 4.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Prof. Henry Lee, "On Syphilis, and on some Local Diseases affecting principally the Organs of Generation."
ROYAL INSTITUTION.—8 P.M. Evening Meeting.—9 P.M. Prof. Tyndall, "On Whitworth's Planes, Standard Measures, and Guns."

Saturday, June 5.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. Douglas, "On the Chinese Language and Literature."

NOTICE.

In consequence of THE LANCET being frequently detained by the Post Office when posted for places abroad *more than eight days after* publication, subscribers and others are reminded that such copies can only be forwarded as book packets, and *prepaid* as such.

TERMS FOR ADVERTISING IN THE LANCET.

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For every additional line	0	0	6	For a page	5	0	0

The average number of words in each line is eleven.

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N.B.—All letters relating to Subscriptions or Advertisements should be addressed to the Publisher.

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Mons. DE LOMINIE, 208, Rue Grenelle St. Germain, Paris.